Calculating Your Future: Personal Finance

Student Guide

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Ford Partnership for Advanced Studies (Ford PAS)

The Ford PAS curriculum consists of modules that link what you learn in the classroom to the skills and knowledge you will need in higher education and the workplace of the future. The curriculum is an academically challenging, standards-based program that will help you to explore and develop your talents and prepare you to excel in both college and career.

The module *Calculating Your Future: Personal Finance* is part of the following two Ford PAS themes:

Getting Smart About Business

In the modules in this theme, you'll become familiar with the many components of a successful business and practice some of the skills needed to build and run a commercial enterprise. Through role-plays and simulations, you'll take on tasks that range from bringing an idea to market to designing a promotional campaign, and from creating a persuasive presentation to generating budgets and recommendations. And you'll learn how both individuals and companies respond to change, plan for financial growth, and strategize for the future.

The modules in this theme include:

- *From Concept to Consumers: Building a Foundation in Problem-Solving*
- *Media and Messages: Building a Foundation of Communication Skills*
- *Careers, Companies, and Communities*
- *Calculating Your Future: Personal Finance*
- *Planning for Business Success*

Putting Math to Work

In this theme, you'll explore the many uses of mathematics in the world of business and finance. You'll examine how algebra and statistics can help you compare sets of data, observe changes over time, and make reliable plans and predictions. You'll learn how data can inform both personal and business planning and decision-making. And you'll work through numerous examples of why math is so important in managing your personal finances as well as succeeding in the workplace.

The modules in this theme include:

- *Calculating Your Future: Personal Finance*
- *Planning for Business Success (Math-Enriched)*
- *Ensuring Quality*

Calculating Your Future: Personal Finance

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Module Overview

Do you ever ask yourself, what do I want to do in the next five years? Or the next 10, 20, or even 40 years? What do I want to accomplish? What are my goals? What role will money play in reaching my goals? How will I pay for college? Should I focus on saving money to meet long-term goals, or should I spend money on things I need or want now? Will using credit to borrow money help me achieve my goals or keep me from reaching them? How much of a risk am I taking if I invest my money? In *Calculating Your Future: Personal Finance*, you will learn the skills and knowledge to take ownership of your finances. You'll use critical-thinking and problem-solving skills to set and evaluate long-term goals, and you'll explore the effect that your financial decisions can have on how and when you achieve your goals. You'll develop strategies for managing money effectively, and you'll make short- and long-term decisions about spending, saving, and investing.

In *Calculating Your Future: Personal Finance*, you'll learn how math can help you make smart financial decisions. For example, algebra can help you understand the relationship between time and money, and the effect that time has on growth—whether it's your savings growing in a bank, or your credit card debt growing because you haven't paid it off yet. You'll graph and analyze different savings and debt scenarios, and learn how to maximize your savings and minimize your debts. Understanding mathematical concepts such as linear and exponential growth can empower you to take charge of your own financial future, as you'll be equipped to make a budget, choose a credit card, plan and make a major purchase (such as a car), and develop a long-term savings and investment plan.

By the end of this module, you'll have the skills, confidence, and motivation to make critical decisions about finances and about your future.

ACTIVITY 1:
The Value of Money

INTRODUCTION

What are your goals in life? What makes you happy? What role does money play in helping you achieve your goals and be happy? In this activity, you'll begin thinking about the values that you and other people attach to money. You'll begin exploring strategies for managing money by considering what you would do if you suddenly received $10,000. You'll also consider how to set financial objectives that will help you achieve your life goals.

Learning Goals

- Identify strategies for setting manageable and measurable short- and long-term financial goals.
- Identify the opportunity costs of various financial decisions.

FOR YOUR GLOSSARY

Opportunity cost

Scarcity

SMART goal

WHAT WOULD YOU DO WITH THE MONEY?

Imagine that you unexpectedly receive $10,000. What would you do with the money? Would you spend it? What would you spend it on? Would you give the money away? To whom? Would you save the money? How and why?

Share your thoughts with your classmates. As you discuss the different options for using the money, consider the following questions:

1. Will you use the money to benefit yourself? Why or why not? If it's not for you, who will benefit from the money? How?
2. What purpose will the money serve? Will it fulfill a want or a need?
3. Will the money provide mostly long-term benefits or short-term benefits? How? Why did you prioritize one over the other?
4. Does your use of the money present any amount of risk? In other words, is it a sure thing that it will provide the benefits you are hoping for?

PERSPECTIVES ON MONEY

What did your decision about the $10,000 tell you about how you value money? Do you think of money as something that can make you happy and something that should be used to enjoy life in the moment? Something that should be invested for the future? Something that can be used to help others in need? Throughout this module, you are going to explore how you value money and the role that money can play in helping you achieve your goals in life. To help you think more about money and the value of money, consider a few other people's perspectives on the value of money. Read **Money Talk** and consider these questions about each quotation:

- What is this author saying about how people value money?
- Does this author voice any concerns about the potential negative effects of money? If so, what are the author's concerns?

Choose one quotation that best reflects your own ideas about money and its value. Be prepared to explain what you think that author's perspective on money is, and why you agree with him or her.

Then consider why different people have such different perspectives on money. What factors affect these different authors' perspectives? Where do your own ideas about money come from?

Money Talk

For the love of money is the root of all evil.

—The Holy Bible (King James Version), *1 Timothy 6:10*

The lack of money is the root of all evil.

—Mark Twain, U.S. author, *Mark Twain: Collected Tales, Sketches, Speeches, & Essays: Volume 2: 1891–1910*

We always think if we just had a little bit more money, we'd be happier . . . but when we get there, we're not.

—Catherine Sanderson, a psychology professor at Amherst College, 2006

It's like the more money we come across
The more problems we see.

—Christopher "Notorious B.I.G." Wallace, rapper, 1997

Our life of poverty is as necessary as the work itself. Only in heaven will we see how much we owe to the poor for helping us to love God better because of them.

—Mother Teresa, nun and humanitarian, *Love, a Fruit Always in Season, 1987*

. . . When women become involved with money and learn how to make wise financial decisions, they become stronger, happier people.

—Suze Orman, financial advisor and television personality, 2007

Money is a singular thing. It ranks with love as man's greatest source of joy. And with death as his greatest source of anxiety.

—John Kenneth Galbraith, economist, *The Age of Uncertainty, 1977*

Never wear the same thing twice . . . If you double up, people will think you have only one outfit—and that's annoying.

—Paris Hilton, socialite, *Confessions of an Heiress,* 2004

A penny saved is a penny earned.

—Proverb, (n.d.)

Anyone who says money can't buy happiness doesn't know where to shop.

—Mrs. Howell, character on the TV series *Gilligan's Island,* 1964–67

They who are of the opinion that money will do everything, may very well be suspected to do everything for money.

—George Savile, 17th-century British politician, *The Life and Letters of Sir George Savile,* 1898

Too much money is as demoralizing as too little, and there's no such thing as exactly enough.

—Mignon McLaughlin, journalist, *The Second Neurotic's Notebook,* 1966

Capital as such is not evil; it is its wrong use that is evil. Capital in some form or other will always be needed.

—Mohandas Gandhi, Indian religious and political leader, *Harijan,* 1940

MONEY FACT OR MONEY MYTH?

A 29-year-old man answers 10 trivia questions correctly and wins $1,000,000 in less than 30 minutes. A teenage girl begs her father so much that he finally agrees to hire Kanye West to perform at her Sweet Sixteen. Another girl receives a diamond tiara at *her* Sweet Sixteen. An advertisement tells you that if you send away for a video, you'll learn how to "make $30,000 a month without ever leaving your home!" These are just some of the images and messages about money and wealth that you see on television and in other media. What do these messages convey to you? Perhaps that there are a lot of really rich people out there? That rich people have the most fun and the most glamorous lives? That wealth can be achieved through quick games and gimmicks?

But are these representations of money and wealth accurate? Sometimes the media can create and perpetuate misconceptions. Before you begin managing your own finances, explore whether you have any misconceptions about money and wealth by playing a game, **Money Fact or Money Myth?**. Work with your team to answer true-or-false questions about money.

KEEPING A FINANCE JOURNAL

Did you learn anything from **Money Fact or Money Myth?** that might affect how you approach financial decisions in the future? Throughout this module, you'll continue to explore how you value money, the role that money can play in helping you achieve your goals in life, and strategies for managing money so that you can achieve those goals.

To help organize and manage your finances, you'll keep a journal throughout the module. You'll use this Finance Journal to keep track of your spending and saving, your financial goals, and your strategies to achieve those goals.

For your first journal entry, explore the role that money plays in your life by calculating your Yearly Happiness Index. Make a list of 5 to 10 things in your life that make you really happy. These might be ways you like to spend time or things you've done or accomplished that make you feel good about yourself. Once you make the list, estimate the costs associated with each item for one year of your life. For example, if one of your items is playing soccer, the associated costs might be as follows:

Soccer equipment and clothes: $150 per year

Soccer league fee: $40 per season

Then add those amounts together to get an estimate of how much a year of happiness costs you.

DID YOU KNOW?

Does money make people happy? Psychologist Daniel Gilbert studies the nature of human happiness. His research shows that the degree to which money makes people happy differs depending on how much money they have. "Money makes a huge difference to the happiness of poor people," says Gilbert. "If you live in a cardboard box under a bridge, money can improve your happiness dramatically. But once you have a decent middle-class existence—food, shelter, security, and all the rest—money does less and less for you until eventually it does nothing at all."

However, Gilbert also says that some of his conclusions about money and happiness are true for most people, regardless of their economic class. "Another thing we know from studies is that people tend to take more pleasure in experiences than in things," he says. "So if you have 'x' amount of dollars to spend on a vacation or a good meal or movies, it will get you more happiness than a durable good or an object. One reason for this is that experiences tend to be shared with other people and objects usually aren't."

HOMEWORK 1.1

Finish calculating your Yearly Happiness Index. Then answer the following questions in your Finance Journal:

1. Does anything surprise you about your Yearly Happiness Index?
2. Did you expect your happiness to cost more money or less money?
3. What does your Yearly Happiness Index score tell you about your own attitude toward money?

Next read **Setting SMART Goals** and answer the **Question for Reflection.**

Setting SMART Goals

What are some things you want to accomplish in your life? Some of your goals might be long-term, like becoming a musician. Some might be short-term, like learning how to drive. Either way, a goal is something that you decide is worth achieving, and something for which you can develop a plan to accomplish.

Why are goals important? Setting goals will help you get what you want and turn some of your wishes and dreams into reality. Goals can give you a target to aim for and provide you with the motivation and persistence to overcome obstacles and challenge yourself. Goals can also help you set priorities. For example, if your goal is to become a musician, you might decide that taking music lessons is a better idea than playing a sport after school. If your goal is to learn to drive, you might decide it's more important for you to take driver's ed classes than work on the school play.

Having goals can also help you set financial priorities and provide guidance for making financial decisions. For example, if your goal is to submit a documentary film to a competition, you may need to save up money to buy a video camera. This goal may require that you develop a savings plan and limit what you spend money on, so that you can save enough money in time to purchase something that's really important to you. How do you go about achieving a goal? There are lots of ways to approach goal-setting and planning. One approach is to complete the following steps:

- Write down the goal as a clear statement.
- Identify necessary conditions, or things that need to be in place for you to meet your goal.
- Identify possible obstacles to achieving your goal.
- Identify smaller goals that will help you move closer to your larger goal.
- Take it one step at a time: choose one smaller goal, and focus on achieving that goal first.

For example, let's take the case of Jana, a 24-year-old college graduate with an English degree who works as an administrative assistant. She's decided that her long-term goal is to become a chef. First she identifies some of the necessary conditions, or things that must be in place for her to reach her goal—for example:

- She needs to develop culinary (cooking) skills.
- She needs to have some related job experience—for example, as a line chef or sous chef.
- A position as a chef needs to be available—either a position that already exists, or a position that she creates herself.

Next, Jana considers some of the potential obstacles to achieving her goal—for example:

- She doesn't have any formal training in cooking, and her skills are underdeveloped.
- She can't afford to go to culinary school full-time right now.
- She doesn't have any work experience in cooking.
- There aren't a lot of jobs available in the industry.

If the obstacles seem insurmountable, or impossible to overcome, then you might have to modify your goal. But often the obstacles can be overcome. In Jana's case, she decides that one smaller goal she can set is to develop her cooking skills by successfully completing a cooking course. She can't afford to go to culinary school full-time, so instead she decides to begin with an Introduction to Culinary Arts course that meets on Saturdays for six weeks. This way, she can keep working at her regular job and begin saving money to go culinary school, but in the meantime, she can focus on developing her cooking skills by attending this class and practicing on her own.

Jana then analyzes her smaller goal to see whether it fits the criteria of a **SMART goal**. SMART is an acronym that stands for specific, measurable, attainable, relevant, and time-specific:

Specific: A goal should explicitly state exactly what you want to achieve. In Jana's case, her specific goal is to successfully complete a six-week cooking course in order to develop her culinary skills.

Measurable: You should be able to measure your progress and know when you've achieved your goal. For example, instead of saying, "I want to be a better basketball player," you should identify what it means to be a better basketball player so you'll know when you become one. You might say, "I want to become a 70 percent free-throw shooter." In Jana's case, her goal is to successfully complete the course—but what does "successfully complete" mean in this case? Does that mean showing up to every single class? Not failing the class? In order for her goal to be measurable, she'll need to define for herself what success means. Perhaps success to Jana means meeting the requirements necessary to receive a certificate and be able to apply for an intermediate class. Maybe success means being able to make a perfect lemon soufflé. She needs to define what success means so that she'll know when she's achieved it.

Attainable: Attainable means that the goal is realistic for you to achieve. If you just started running and can run an 11-minute mile, is it realistic for you to set a goal of running a 4-minute mile? Take into account your strengths and your limitations when assessing how attainable your goal is. But make sure not to sell yourself short. If you already run an 11-minute mile, a 4-minute mile may be unrealistic, but a 10:59-mile isn't much of a challenge. Maybe a 10-minute mile is a good goal for you? It's OK to stretch yourself so that you have to work hard to achieve your goal; just don't set a goal so unrealistic that you will become discouraged.

The other aspect of attainability is that the goal is within your control. For example, let's say that Amy was running in a 5-mile road race and she set a goal to beat Jackie in the race. At first glance, that seems like a specific and measurable goal. But is it entirely in Amy's control? Is it attainable? Amy can control how fast she runs, but she can't control how fast Jackie runs. What if Amy runs a great race and shatters her personal record for 5 miles, but Jackie has an extraordinary day and runs an even faster race? Should Amy feel like she didn't accomplish her goal just because of how Jackie did? Similarly, let's say Amy has a terrible run, but Jackie gets hurt and drops out of the race. Does that mean that Amy should feel like she met her goal because she beat Jackie? Try to set goals that depend on what *you* do rather than on what someone else does.

Relevant: Is this goal relevant to your larger goals or to your life in general? In Jana's case, completing the cooking course is clearly related to her desire to become a chef, so it definitely meets the criteria of being relevant to her. This doesn't mean that all your goals have to be related to one big life goal. For example, a goal of learning how to play a song on the piano can be relevant even if you have no aspirations to be a professional musician. You might just love music, and playing the piano as a hobby makes you happy and feel good about yourself. It's important, however, to ask yourself why you want to achieve the goals you've set, and then consider whether those reasons are important enough to you to work toward that goal.

Time-specific: By when do you want or need to achieve this goal? Can you track your progress? Setting a time frame for your goal will keep you on track and focused. For example, let's say you have a financial goal of saving money to buy a car. Consider the difference between these two goals:

- I want to have enough money to buy a car someday.
- I want to save $30 a week so that I can buy a used car in one year.

With the second goal, you can track your progress each week and stay focused on reaching your specific target. Since Jana's class is exactly six weeks long, she has a specific time frame for achieving her goal.

Questions for Reflection

What goals do you want to accomplish? In your Finance Journal, create a list of five to ten goals, both big and small. These goals can include financial goals, but they don't have to. After you come up with your list of goals, choose a goal that's important to you, and write an analysis in your Finance Journal that answers the following questions:

1. What conditions need to be in place for you to meet your goal?
2. What are some possible obstacles to achieving your goal?
3. Are there any smaller goals that will help you move closer to your larger goal?

ANALYZE SMART GOALS

Look at the list of goals in **How SMART Is This Goal?** Analyze each goal and determine how SMART it is—is it specific, measurable, attainable, relevant, and time-specific? If it's not all those things, what's missing? Does it need to be more specific? Do you think it sounds unrealistic? If it's not a SMART goal, how could you rewrite it to make it "SMART-er"?

CREATE YOUR OWN SMART GOALS

Now it's your turn. Consider the list of goals you brainstormed for homework, and choose one of your goals to share with your classmates. You'll each be SMART consultants and give one another feedback on how to make your goals SMARTer. Read Sally's Sample SMART Goal Discussion to get an idea of how you might help your classmates refine their goals.

SALLY'S SAMPLE SMART GOAL DISCUSSION

Sally: My goal is to learn how to drive.

Team member: That seems like a good goal. Why is it relevant to you? Why is it important?

Sally: Well, I'm planning on getting a part-time job next year, and I want to have the option of getting myself there and not relying on my parents to pick me up. Plus, it's a skill I want to have, and I might as well learn sooner rather than later so I can concentrate on other things.

Team member: How will you know when you've achieved this goal? What does it mean to you to learn how to drive?

Sally: I guess it means getting my license. So, really, I want to take the driver's test and pass it.

Team member: Is this goal attainable? What are things you need to do to be able to pass the test? Are you taking driver's ed?

Sally: Yeah, I want to take driver's ed this winter—I have to find out when the classes are, but I'm planning to sign up, and then I'll take the road test in May.

Team member: So it sounds like there are a couple of things you'll need to do to make sure the goal is attainable—like find out when the classes are and sign up for them. Assuming you do all that, could you rephrase your goal with some of these SMART criteria in mind?

Sally: How about, "My goal is to attend driver's ed classes this winter, practice with my parents once a week, and take my road test in May."

SETTING SMART FINANCIAL GOALS

Were any of your goals financial goals? Do your goals require you to save money in order to do something, such as go to college, or purchase something, like a vehicle? Setting financial goals requires the same careful analysis and planning as setting other types of goals. These goals should be specific, measurable, attainable, relevant to your larger goals or to your life, and time-specific. For example, consider the goal "I want to be rich someday." Is it SMART? Why or why not?

Most likely, your financial goals are directly related to other goals. Maybe you want to learn video production skills by attending a summer program at a local college, and you need to save money for tuition. Or maybe you want to stay out of debt so you can work toward buying a house in the next 15 years. Whatever your goals are, identifying them will help you set priorities and guide your financial decision-making. Throughout the rest of the module, you'll consider how your goals can affect the financial decisions you make as well as how various decisions you make can affect the achievement of your goals.

HOMEWORK 1.2

Use the feedback you got from your classmates to revise your goal. Then write a paragraph that explains how your goal is SMART. Use the **SMART Goal Assessment** to guide your work.

Read **Calculating Opportunity Costs**.

Calculating Opportunity Costs

Scarcity is defined by economists as a situation in which people's needs are greater than the capacity of available resources to provide for those needs. For example, on a rainy day there might be 10 people in a store trying to buy umbrellas but only 5 umbrellas are left. The umbrellas in this scenario are scarce because there are not enough of them to meet customers' demands. When you are thinking about how to achieve your goals, you need to manage your scarce resources effectively. Your money, your time, and your skills are some of the valuable resources that you need to manage in order to achieve your goals.

We all make decisions every day about how to spend our money and use our time. Whenever you make a decision of any kind, there is always another alternative that you do not choose. The trade-off or cost of passing up the next-best alternative is called the **opportunity cost**.

For example, let's say that you are at the movie theater with your friends, and you have exactly $6. Imagine that there are only three snacks that you can buy (or that you want to buy): popcorn ($6), soda ($2), and candy ($3). To buy popcorn, therefore, you need to give up your other options—in this case, soda and candy. So what is the opportunity cost of buying one popcorn? Three sodas? Two candies? The answer actually depends on you. The opportunity cost is the alternative *you* value the most that you have to give up in order to make your decision. If you really hate soda but love candy, then the opportunity cost of buying one popcorn is two candies. Opportunity cost is not *all* the possible things you have given up; rather, it is the alternative that has the highest value to you.

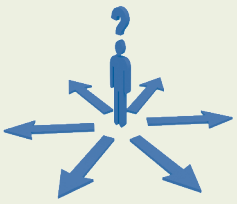
So what does this mean? It means that calculating opportunity cost requires you to consider what you value the most. This is what distinguishes opportunity costs from other costs. If you only look at monetary costs, for example, you may not be examining the situation in its entirety. For example, suppose a woman is walking down the street when she sees a crumpled $20 bill partially stuck under a rock. Should she stop, lift the rock, and pick up the money? If so, she gets a benefit of $20, and it doesn't cost her anything. So it seems that the benefit clearly outweighs the cost. But what if the woman is a surgeon, rushing to the hospital to perform emergency heart surgery, and every second counts? Do you still think the benefits of stopping to pick up the money outweigh the costs?

When considering a choice, ask yourself these questions:

1. What alternative opportunities are there?
2. Which is the best of these alternative opportunities? (Note that "best" is a value judgment—it's the best alternative according to what you value.)
3. What would I gain if I selected my *best* alternative opportunity instead of the choice I'm considering?

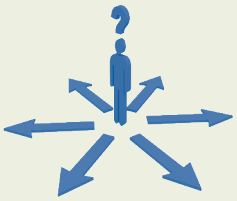
The answer to the third question is the opportunity cost of the choice. Consider how you might resolve the dilemmas that follow. What is the opportunity cost of your decision in each dilemma?

Amanda's Dilemma



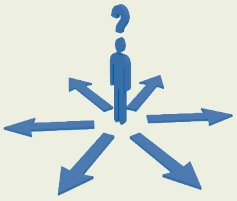
Amanda is a senior in high school. She knows she wants to be an actress. She's been the lead in school plays since kindergarten and feels confident that she has real talent. She planned to go to college and study theater; in the fall, she applied and was accepted to a very good state university. In the spring of her senior year, she got a part in a community theater production of the musical *Grease*. A casting manager came to a performance, was impressed by her, and asked her to audition for a professional traveling production of the same show. She did and got offered a small role in the chorus. Her parents want her to turn down the job and go ahead with her college plans. They think that if she's talented, she'll have lots of other opportunities; plus, she would be the first person in her family to go to college, which would mean a great deal to them. Amanda thinks that taking the job could be a once-in-a-lifetime start to a great acting career. The job itself doesn't pay much, but it could lead to bigger and better roles. Plus, she will save herself and her parents thousands of dollars in college tuition. What should Amanda do?

Karl's Dilemma



Karl is 36 years old and married, with an 18-month-old daughter. He is a lawyer for a corporate law firm, where he has worked for several years and makes a very good salary of $200,000 a year. His wife is a doctor, who also makes a good salary and loves her job. They have a full-time nanny, whom they pay $400 a week. Karl also has an excellent retirement plan with the company, and he feels very secure in this job. However, he works extremely long hours, and he barely gets to see his daughter during the week. She learned to walk and spoke her first words while he was at work. His job is also taking a toll on his health. His blood pressure has risen, he barely has time to exercise, and he has gotten into the habit of eating unhealthy fast food for breakfast and lunch. He's considering taking a year off to stay home with his daughter. He's looking forward to spending time with her, and also to get back into the habit of cooking and exercising. (He has a jogging stroller that he's never used.) They wouldn't have to pay a nanny, so they'd save money, but overall their income would be much lower. It would mean putting less money into his daughter's college savings plan and saving less money for retirement. Also, there's no guarantee that there will be a job waiting for him if he decides to go back to work in a year. What should Karl do?

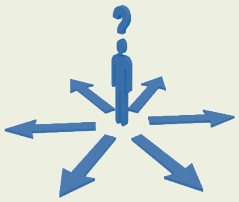
Javier's Dilemma



Javier works two jobs, as a construction worker and a house painter, for a total of 60 hours a week. He's trying to save $750 to fly home to Mexico in a month to go to a family wedding and take a much-needed vacation. So far he has $400. A terrible hurricane hit a nearby community, and many people's homes have been destroyed. The Red Cross

has been asking folks who can to donate $100 for hurricane relief. Javier really feels for these families and wants to help. But $100 will put him a couple of weeks behind in his savings, and he might not have enough to go home for the wedding. What should Javier do?

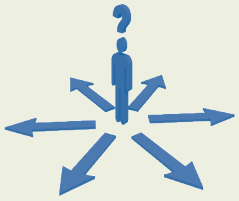
Troy's Dilemma



Troy, a high school senior, has been a great athlete since he was young. He's played basketball since he was four years old and has always dreamed of playing in the NBA. Even though he is barely 6′ tall, he was given a basketball scholarship to a Division I college, where he believes he will see some playing time as back-up point guard in his freshman year. He and his parents are pleased. His plan is to major in business administration and pursue a career in sports management.

After one of his final games with his high school team, a recruiter approached him. The recruiter was from Euroleague, a professional basketball league in Europe, and said he'd been following Troy's career and was very impressed with his skills. He offered Troy a signing bonus equivalent to $10,000 and a starting salary equivalent to $20,000 plus living expenses to move to Italy and play basketball there. Although the money is nowhere near an NBA salary, Troy is flattered and excited by the offer and thinks that this could be his big break. He knows that other NBA stars have made their start in Europe, and this would be a great opportunity to get playing time with older, more experienced players. Moreover, he knows that because he could get permanently hurt playing in college, he may never earn any money from his basketball skills if he counts on waiting until after college to play professionally. (One blown knee or ankle is enough to end a basketball career). Although he'd also play basketball at college, the school that recruited him has not made the NCAA tournament in the last 20 years, so he's not sure he'd get as much exposure in college as he would in the Euroleague. His parents, however, are very worried about him moving so far away and would be devastated if he didn't go to college. What should Troy do?

Hannah's Dilemma



Hannah is a senior in high school. She's fascinated with world issues and thinks that she might want to join the Foreign Service or even work for the CIA after she graduates college. She thought it would be a good idea to begin studying foreign languages as soon as possible because she knows it will be a marketable skill. Her high school only offers Spanish, so she decides to sign up for an Arabic class at a local community college. After taking the class for a month, she realizes that it's way more work than she had thought it would be. She barely has time to see her friends, and the travel time to the community college means she won't be able to participate in the extracurricular activities she loves, including soccer and the yearbook committee. Still, she's proud of the hard work she's done in the class and doesn't want it to go waste. She also doesn't want to give up the edge that Arabic will give her when she enters the job market. Should she drop the class? What should Hannah do?

ANALYZE OPPORTUNITY COSTS

Often we don't even realize that in making decisions we give up alternatives. Did you ever really think about the opportunity cost of joining the basketball team, or taking Spanish, or buying a new video game? Did you give up some nights out at the movies in order to save for the video game? Are you giving up the opportunity to make money at a part-time job in order to join the basketball team?

Sometimes it doesn't make much sense to spend a lot of time on a decision. Does it *really* matter if you order a burger with Swiss cheese or American cheese? If you wear white socks or beige socks? In those cases, spending lots of time deliberating over what will be the perfect meal or the perfect outfit is probably not the best use of your time. But for other decisions, taking the time to think about the costs, benefits, and possible alternatives will help you think through what you really want to accomplish and will help ensure that you're making sound decisions that will help you reach your goals.

Work in a team to discuss your assigned dilemma from **Calculating Opportunity Costs**. Decide as a team what the dilemma is really about. Why is it a difficult decision? In your team, decide how you would resolve the dilemma and what the opportunity cost of your decision would be.

Answer the following questions:

- What might be the positive consequences of your decision?
- What alternative opportunities are there?
- Which is the best of these alternative opportunities?
- What would be gained if the best alternative opportunity is selected?

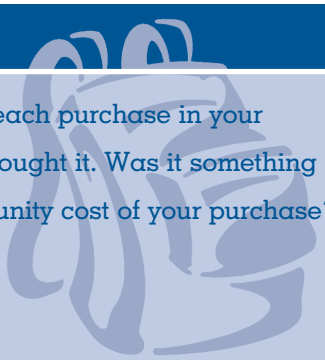
After you identify the opportunity cost, decide whether you still think that the positive consequences of your original decision outweigh the costs, and in particular the opportunity cost. Remember that there is no one right answer to any of the dilemmas.

TRACK YOUR SPENDING

When you worked on resolving the dilemmas, you probably realized that there was no easy answer to any of them. As you explore how to set goals and how to manage money, keep in mind that there's no one right way to manage your finances. There are certainly some decisions that many people would agree are better or worse ways to manage your finances. (Most people would agree, for example, that crumpling up your money and throwing it in the garbage is not very productive.) But few decisions are that black and white. You determine what you value in life. You determine what your goals are. One thing you should learn to do, however, is to manage money in ways that are in line with your goals and your values.

Throughout this module, you're going to look closely at all the decisions—both large and small—that you make each day, some of which include how you spend your money. Did you buy a ticket for the movies? Did you buy a cookie at the school bake sale? Even these seemingly small items add up. Begin keeping track of your spending decisions by writing down everything you spend money on—and why—in your Finance Journal. Do this every day for a week.

HOMEWORK 1.3



Track all of your spending for an entire week by recording each purchase in your Finance Journal. For each thing you buy, identify why you bought it. Was it something you needed? Something you wanted? What was the opportunity cost of your purchase? What, if anything, did you give up to make that purchase?

Read **Financial Living Project Guidelines**.

EXTENSION

1.1

Review the **Did You Know?** on page 18. Then design your own survey about money and happiness. Develop questions that will reveal people's attitudes toward money, and the extent to which money affects their happiness. Ask everyone you know to participate in the survey. Compare your results to Dr. Gilbert's.

Financial Living Project Guidelines

Throughout this module, you will work in teams on Financial Living, a hands-on financial management project. Each team will receive a **Financial Living Character Packet**, which is a profile of a fictional individual. This profile describes your Financial Living character's job and annual income as well as aspects of your character's personality, such as his or her interests and ambitions. You'll work with your team to set financial goals for your character and develop a plan to meet those goals. You'll create Microsoft® Excel spreadsheets to organize and manage your character's spending, savings, debts, and investments. Throughout the project, your character will be presented with real-life obstacles, such as illnesses or accidents, as well as unanticipated positive events, such as receiving a bonus at work. For each unexpected event, you'll work with your team to modify your character's financial plan based on that event. At the end of the module, you'll revisit your character's financial goals and assess your character's plan for meeting those goals.

Financial Reports

You will write five short reports, which will include the following information and analyses:

1. **Budget Report:** Describe what factors you took into consideration when creating your character's original monthly budget. How did the character's actual spending compare with the budget you created? Describe the modifications you made to your character's budget based on your analysis of the character's actual spending as well as the effects of unexpected events.

2. **Savings Report:** Describe the savings goal you set for your character and why you chose that goal. Explain and defend your plan to reach that goal, including how you will alter your character's budget in order to save enough money each month.

3. **Credit and Debt Report:** Describe how much debt your character has and how he or she came to owe this amount. Describe the decisions you made regarding the purchase and financing of a vehicle for your character. Describe your plan for how your character will pay off his or her debt, including an analysis of how you will adjust your character's budget in order to manage this debt.

4. **Investment Report:** Explain how risk-tolerant your character is and the factors that affect his or her risk-tolerance level. Describe the types of investments that match your character's risk-tolerance level, and identify which investments will be part of your character's investment portfolio.

5. **Final Financial Report:** Revisit and assess your character's financial goal. Describe the challenges you faced and the strategies you used to help your character achieve this goal.

Spreadsheets

In addition to the reports, you'll create several Excel spreadsheets that document and track your character's spending, savings, debts, and investments.

Presentations

Throughout the module, your team will periodically give short presentations in which you share your character's progress toward achieving his or her financial goals.

During Activity 6, "Planning Ahead," your team will give a final presentation, which will include the following information:

- Review of what your Financial Living character's savings goal was and why you picked that goal.
- Description of one action you took for your character that was important in helping your character achieve his or her goal.
- Description of one decision that was particularly difficult to make for your character.
- A projection of your character's life and financial situation five years from now.
- Description of an important lesson in financial management that your team learned from working on the Financial Living project.

ACTIVITY 2:
Dollars and "Sense": Introduction to Money Management

INTRODUCTION

Have you ever thought about how much money you really spend on downloading music? Snacks after school? Video games? You might be surprised at how much the little things add up. In this activity, you'll begin exploring how to create budgets to manage your spending. You'll start working on your Financial Living project and receive information about your Financial Living character's job and financial situation. You'll create a spreadsheet to organize and manage your character's monthly expenses. And you'll make decisions about certain expenses in order to create a budget for your character.

Learning Goals

- Analyze a paycheck stub to identify the relationships among gross income, standard deductions, and net income.
- Use formulas and graphs to analyze different types of taxes and other paycheck deductions in order to evaluate the fairness of such deductions.
- Identify key elements of a budget.
- Organize and analyze an individual's fixed and variable monthly costs to create a realistic monthly budget.

FOR YOUR GLOSSARY

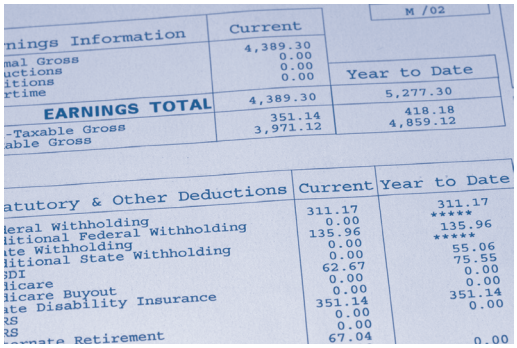
Ability-to-pay principle
Benefits-received principle
Budget
Deductions
Disposable income
Federal income tax
Fixed expenses
Flat tax
Gross income
Medicare tax
Net income
Progressive tax
Proportional tax
Revenue
Social Security tax
Tax
Tax brackets
Variable expenses

FINANCIAL LIVING CHARACTER INTRODUCTION

Begin working on your Financial Living project by reading the Character Biography in Part 1 of your **Financial Living Character Packet**.

You will be setting financial goals for your Financial Living character and developing strategies to achieve those goals. Before you set goals, you need to assess your character's current financial situation. What is your character's income? Assume that your character gets a paycheck every two weeks. Estimate the amount your character will receive in each paycheck, based on the information given in the character biography.

ANALYZE A PAYCHECK



nings Information	Current	Year to Date
mal Gross	4,389.30	
uctions	0.00	
itions	0.00	
rtime	0.00	
EARNINGS TOTAL	4,389.30	5,277.30
-Taxable Gross	351.14	418.18
able Gross	3,971.12	4,859.12

atutory & Other Deductions	Current	Year to Date
eral Withholding	311.17	311.17
itional Federal Withholding	0.00	*****
te Withholding	135.96	135.96
itional State Withholding	0.00	*****
DI	0.00	55.06
licare	62.67	75.55
licare Buyout	0.00	0.00
te Disability Insurance	0.00	0.00
S	351.14	351.14
S	0.00	0.00
rmate Retirement	0.00	
	67.04	0.00

When you did your initial calculations, you might have calculated your Financial Living character's **gross income**, which is the total amount a worker earns at a job before items are deducted from his or her pay. Did you take into account the different **deductions**, or amounts subtracted from your character's gross pay? Some deductions are required by law, such as federal income tax and Social Security tax. Other deductions are optional for companies and/or employees. For example, employees might elect to have a portion of their paychecks deducted for a company-sponsored retirement plan. **Net income** is what's left over in the paycheck after all the deductions are made. And it's this net income that your character will have to use to cover all of his or her living expenses.

Check your predictions by looking at your character's **Paycheck** on the **Ford PAS Web site**. Is the net income what you expected? Why or why not? How much was deducted from your character's gross income? How do you think that amount was determined? Answer the **Paycheck Analysis Questions**.

WHO PAYS WHAT?

Complete **Paycheck Deductions**, which is a blank table with the following headings:

Character Name	Gross Income per Pay Period	Amount Deducted for Federal Income Tax	Percent of Gross Income (or Federal Taxable Wages) Deducted for Federal Income Tax	Amount Deducted for Medicare	Percent of Gross Income Deducted for Medicare

Use your character's paycheck stub to fill in answers for each column for your character only. Then complete the entire table with the results compiled by other Financial Living teams.

HOMEWORK 2.1

Read **Where Does My Money Go? The Hows and Whys of Taxes** and answer the **Questions for Reflection**.

Continue to track your own spending in your Finance Journal.

Where Does My Money Go? The Hows and Whys of Taxes

"Remember, son, these are your tax-free years. Make the most of them."

If you turn on the news or listen to a political debate, most likely the subject of taxes will come up. Should we raise taxes to pay for essential services, such as defense, health care, and education programs? Should we cut taxes to encourage the middle class to spend more and thus stimulate the economy? Should there be tax increases for the wealthy but tax cuts for the poor? Or should all citizens pay the same percentage of their income on taxes?

Few people will say that they like to pay taxes, but most will agree that some taxation is essential. A **tax** is a fee associated with a product, income, or activity, paid to the government by individuals or companies. Taxes are a way for federal, state, and local governments to raise **revenue**, or money that they use to pay for services. Services funded through taxes include highways, police, the justice system, national defense, health, welfare, schools, and parks.

Taxes in the United States have existed as long as the country has existed. Article 1 of the Constitution gives the U.S. Congress the power to establish taxes and the executive branch the power to collect taxes. Over the years, people have debated how to impose taxes fairly. Some people argue that taxation should be based on the **benefits-received principle**—the idea that people who benefit from the services provided should be the ones who pay the taxes to finance them. For example, people who drive over a bridge pay the toll that's used to maintain the safety of the bridge and roadway. Our federal income taxes pay for such services as national defense, social programs, law enforcement, and interest on the national debt. In theory, all American citizens benefit from those services, though everyone might not agree with the way all of those programs and services are run.

What do you think? Does everyone benefit from all of the services provided by the federal government? If you don't directly benefit, should you pay taxes to help fund these services? For example, homeowners pay property taxes, which are a form of local taxes that are used to partially fund public schools. What if the Garcias own a home and pay property taxes but send their children to private school? What about the Johnsons, who don't have any children? Should these families pay taxes to fund a service that doesn't directly benefit them? Other people argue that a guiding tenet behind taxation is the **ability-to-pay principle**—the idea that people who have higher incomes can afford to pay more in taxes and can do more to help the government provide essential services.

There are many different types of taxes, and the tax system can get quite confusing. The following are taxes that are directly related to your income (as opposed to taxes levied on things you buy, such as sales tax on clothing items, or things you own, such as taxes paid on a vehicle or a house):

Federal income tax: A percentage of one's income that U.S. citizens, residents, and corporations are required to pay annually to the national government on all money earned. Everyone who earns an income pays federal income tax, which is used to fund a wide variety of services. The rate you pay in federal income tax depends on your income level. Additionally, there are different classifications, such as your marital status, that affect your tax rate. Congress adjusts tax rates, usually every year.

Social Security tax: The Social Security Act, passed in 1935, established a program that provides income to individuals over retirement age and disabled workers. Social security tax is the source of this income. Money is deducted from employees' paychecks and money is also paid by employers to the federal government to cover these costs.

Medicare tax: In 1965, a provision was added to the Social Security Act that gives medical insurance to disabled workers and to individuals over retirement age.

You might have seen or heard the term FICA (pronounced "fy-cah") as well. FICA stands for Federal Insurance Contribution Act; it mandates that employees and employers both contribute a percentage of income to Social Security and Medicare tax. On some paycheck stubs, you'll just see the term FICA, which

means that the Social Security tax and Medicare tax are added together. On other paycheck stubs, you'll see the amount broken down into FICA-SS and FICA-Med. (And sometimes FICA isn't mentioned at all on the paycheck stub.)

You might also notice on your paycheck stub that you have state and even city taxes deducted. Each state has the right to impose its own taxes and to use the revenue to pay for various programs and services. This varies from state to state—and some states don't charge income tax at all.

Questions for Reflection

1. Do you think the ability-to-pay principle or the benefits-received principle is a better way to judge whether a tax policy is fair? Why?
2. Do you know whether the state where you live has a state income tax? Would knowing whether a state has an income tax affect whether you would want to live there? Why or why not?

MEDICARE TAX ANALYSIS

Return to **Paycheck Deductions**, in which you compiled each Financial Living character's income and deduction amounts, and look at the column on Medicare. What do you notice about the relationship between the Medicare tax amount and income? How, if at all, does the amount deducted for Medicare depend on your gross income? Write a formula or sketch a graph to describe and express this relationship between gross income and the amount deducted for Medicare.

You probably noticed that no matter what your income is, the same percentage of your income is deducted for Medicare. This is an example of a **proportional tax**, which is also called a **flat tax**. A flat tax means that everyone pays the same rate, regardless of their income level. Note that there's a big difference between the *percentage* you pay in Medicare tax and the *amount* you pay in Medicare tax. Even as your income rises, you will continue to pay the same proportion or percentage of your income to Medicare tax. But the actual amount you pay will go up as your income goes up.

FEDERAL INCOME TAX ANALYSIS

Now conduct the same analysis of federal income tax. How does this tax depend on income amount? Did all of the Financial Living characters pay the same percentage of their income to federal taxes? If not, how did the amounts differ?

Read **Federal Income Taxes Explained** and calculate the federal income taxes for the individuals listed, based on their income levels and corresponding tax brackets. Then draw a graph of federal income tax as a function of income. How does this graph compare to your graph of Medicare tax as a function of income?

FAIRNESS OF TAXES

Consider the calculations you did and the differences in the amount each individual paid in federal income taxes. Do you think it's fair that people who earn more money pay a higher percentage of federal income tax? In **Where Does My Money Go? The Hows and Whys of Taxes**, you read about two principles that guide decisions about fairness in taxes: benefits received (the idea that people who benefit from a particular public service should pay for it) and ability to pay (the idea that people who can afford to pay more in taxes should do so). Which principle do you think should carry more weight when making decisions about taxes? Given this principle, do you think our current federal income tax system is fair? Why or why not?

Each year, all sorts of tax reform proposals are debated in Congress. Some proposals call for tax cuts for everyone; others call for tax cuts for the poor and middle class, and tax increases for the wealthy. Some proposals call for the elimination of the progressive system of income tax and a change to a flat tax, where all individuals would pay the same percentage of their income in taxes. And some proposals call for the elimination of federal income tax altogether! Consider the following proposal for a flat tax:

> **Proposal: Replace the progressive federal income tax with a flat tax. All U.S. citizens, regardless of income, will pay a flat tax of 19 percent of their income.**

Discuss the following questions with your team:

1. How would your Financial Living character be affected by this proposal? Would he or she pay more under the current tax system or under a flat tax system?
2. Who, if anyone, might benefit from this proposal? Who, if anyone, might be hurt by this proposal?
3. What are the advantages and disadvantages of this proposal?
4. Which do you think is a better system—the current progressive federal income tax system, or this proposal? Why?

HOMEWORK 2.2

Continue to track your own spending in your Finance Journal.

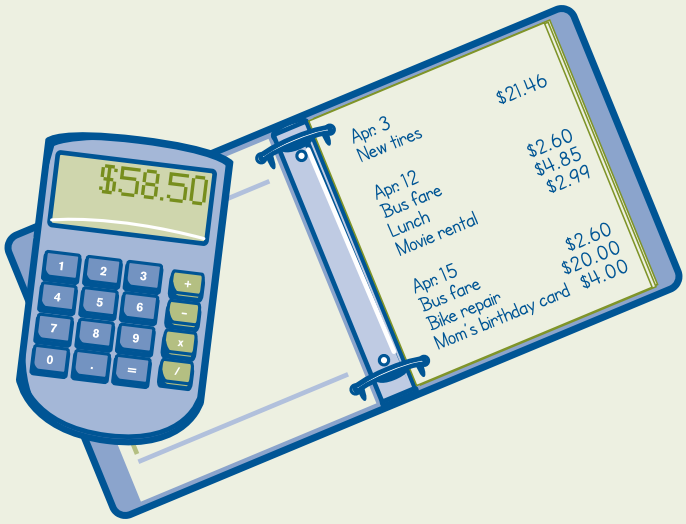
HOMEWORK 2.3

Read **Keeping Track: The Importance of Budgeting**.

Continue to track your own spending in your Finance Journal.

Keeping Track: The Importance of Budgeting

After taxes and other deductions are taken out of your paycheck, the money you have left to spend is your net income, which is also called your **disposable income**. What you do with your disposable income is up to you. You might spend it on things you need or want, or you could use it to pay off debts, donate it to charity, or save or invest it for the future. As you can see from the stories of Sally and José, earning money is only one piece of achieving a financial goal.



Sally was a high school senior who worked about 10 hours a week at a café, where she made $8 an hour. She was hoping to save money to buy a used car before she went to college. Each week, she put whatever earnings she hadn't spent (and that hadn't been deducted for taxes) into a savings account. The amount varied each week, but was usually around $40. She was thrilled when her boss praised her performance at work and gave her a raise to $10 an hour. She was sure that she would make it to her goal of buying a car even sooner than she had thought. In fact, she was so happy about the raise that she took all her friends out to dinner. And the next day she decided that she wanted to continue to impress her boss, so in order to look responsible and professional she got a great new haircut and bought new shoes. At the end of the week, to her dismay, she had no money to put toward her savings.

José was a high school junior who worked at the same café, also for 10 hours a week. He made only $7.50 an hour because he was younger and had less work experience. Like Sally, he wanted to buy a used car. Each week he kept a record of how much money he made, and he wrote down every single thing he spent money on. He always made sure that each week, as soon as he got his paycheck, he put $50 into his savings. After several months of working, he was well on his way to saving enough for a used car.

When you set financial goals, it is helpful to plan and prioritize your spending and saving so that you can meet those goals. A first step toward doing this is to create a **budget**—a plan for how you will spend your money, based on your expected income and expenses. A budget is balanced when the amount of money that comes to you in the form of income is equal to the amount of money that you spend or save. If you spend more money than you receive in income, then your budget won't balance, and you'll be in debt.

Many experts recommend making a monthly budget. Why? A month is a significant but manageable chunk of time; furthermore, people usually get paid once or twice a month, and many bills are due once a month. To create a monthly budget, you can complete the following steps:

1. Estimate your total expected monthly income. (Remember to account for taxes and other deductions from your paycheck. Use your net—or disposable—income, not your gross income, when making this estimate.)

2. Pay yourself! Many financial experts say to "pay yourself first," which means to reserve some part of your income for savings right away. Regardless of your financial goals, many financial experts recommend that adults have a "rainy day" or emergency fund equal to three to six months of their salary. This is a way to plan for unexpected obstacles in the future. You may feel very confident in your job, but who knows what will happen. You could get injured or sick and have to leave your job, or the economy could take a sudden bad turn and you could lose your job. Having an emergency fund will protect you during such a time and give you a cushion while you're temporarily without your income.

   The amount that you save is up to you; many experts recommend that as you're building your rainy day fund, you should try to save at least 10 percent of your disposable income each month.

3. Estimate your **fixed expenses**, which are the costs you are obligated to pay at specific times regardless of events. You can't change these costs unless you make a major revision in your lifestyle. For example, you must pay your rent and phone bills and auto insurance (if you have a vehicle) when the bills are due. Many financial experts recommend that your housing costs (rent, or mortgage payments, if you own a home) should make up no more than 35 percent of your disposable income, while your total fixed expenses should be no more than 50 to 60 percent of your take-home pay. However, this is not always possible, especially for young people starting out on their own and/or living in expensive cities.

4. Estimate your **variable expenses**, which are the costs that vary in amount and type depending on events and the choices you make. For example, your grocery bill can be larger or smaller from month to month depending on what you choose to buy. Other examples of variable expenses are costs for eating out, entertainment, and buying clothes. Variable expenses can be difficult to estimate, especially if these are expenses that you don't have every single month. For example, let's say that you buy about three pairs of shoes a year, and you spend an average of $40 for each pair of shoes. This

means that you might spend a total of $120 a year on shoes; if you're making a monthly budget, you should budget $10 per month. This doesn't mean that you actually spend $10 each month on shoes, but that over the course of the year, the cost of shoes will average out to $10 a month.

But how do you know that you will buy three pairs of shoes in a year? Many people don't plan such purchases ahead of time; rather, they buy things when they see something they want. Planning ahead based on reasonable estimates of what you need and what you can afford is one of the most difficult and important parts of making a budget.

One way to make reasonable estimates of your variable expenses is to start by tracking all your spending for a period of time, such as a week or a month. If you write down everything you buy for a month, you'll know exactly where your money is currently going. Then you can categorize your expenses and analyze how much you're spending on different items. This analysis will help you identify which of your spending is essential and which is non-essential. Then you can start to plan ahead—you can prioritize spending on things you need and cut back on spending in other areas in order to work toward achieving your financial goals.

INTRODUCTION TO BUDGETS

Now that you have an understanding of the deductions made on your Financial Living character's earnings, you can determine your character's disposable income. This is the first step in creating a financial plan for your character. Next you'll create a budget for your character to help him or her plan and manage spending and saving.

> **Wealth is not the same as income. If you make a good income each year and spend it all, you are not getting wealthier. You are just living high. Wealth is what you accumulate, not what you spend.**
>
> —Thomas J. Stanley and William D. Danko, *The Millionaire Next Door: The Surprising Secrets of America's Wealthy,* 1996 (p. 1)

Think about all the expenses your character might have in his or her daily life. Brainstorm a list of expenses.

Look at the list and consider:

- Which expenses are fixed and which are variable? How do you know?
- Which expenses represent wants and which represent needs?

How do you define the difference between a need and a want? Think about something you spent money on in the last week. Was it something you absolutely needed? Kind of needed? Didn't really need, but wanted? It's not always black and white. For example, you might not *need* to pay money to join a soccer league, but it might be something that contributes to your health and happiness. And maybe you're trying to get recruited by a college soccer team, so in that case, it's important to your success in the future. Distinguishing between needs and wants doesn't mean that you need to become someone who only spends money on absolute needs, but it does help you think about how to prioritize and possibly cut back on items that are less important.

ANALYZING SAMPLE BUDGETS

One purpose of a budget is to assess your current spending and consider ways to manage and potentially reduce your future spending. A key to creating a good budget is to choose useful categories that will help you manage your spending. For example, if you eat at restaurants several nights a week, it may be helpful to have one category for dining out and another category for groceries, rather than have only one category for food. You are going to look at the sample budgets of two fictional individuals. Each budget includes three months of spending in order to show how the person's spending matched up with his or her budget. You'll analyze these budgets to determine how the budget helped each person manage and reduce spending, and you'll use your analysis to help you develop a budget for your Financial Living character. Go to the **Ford PAS Web site** to download the **Sample Budgets Spreadsheet**, and use Excel to answer the following questions. (For quick access to the data on the spreadsheet, see **Sample Budgets** on the following page.)

1. What percentage of each individual's income was budgeted for rent?
2. What percentage of each individual's income was budgeted for food?
   a. What percentage of each individual's income was actually spent on food during Month 1?
   b. In dollar amounts, what was the difference between each person's budgeted amount and actual spending on food during Month 1?
   c. What percentage of the budgeted amount did each person actually spend on food during Month 1?
3. Using the spending shown for three months, how might you compare how close each person's actual spending on food was to what she budgeted?
   a. Which person's spending on food do you think was closest to her budget?
   b. Create a graph that illustrates how each person's spending on food throughout the three months measured up to her budget.
4. What differences in Carrie's and Samantha's financial behaviors can you infer by looking at their budgets?

Sample Budgets

Carrie's Budget				
Category	**Monthly Budget Amount**	**Actual Amount: Month 1**	**Actual Amount: Month 2**	**Actual Amount: Month 3**
INCOME:				
Wages/Income	$1,450.00	$1,450.00	$1,450.00	$1,450.00
EXPENSES:				
Rent	$400.00	$400.00	$400.00	$400.00
Utilities	$100.00	$120.00	$130.00	$105.00
Food	$200.00	$100.00	$220.00	$180.00
Clothing	$66.00	$250.00	$0.00	$90.00
Shoes	$55.00	$250.00	$0.00	$300.00
Entertainment	$44.00	$0.00	$50.00	$20.00
Miscellaneous/ Other	$250.00	$325.00	$325.00	$325.00
Total spending	**$1,115.00**	**$1,445.00**	**$1,125.00**	**$1,420.00**
Net income to go to savings account	**$335.00**	**$5.00**	**$325.00**	**$30.00**

Samantha's Budget				
Category	**Monthly Budget Amount**	**Actual Amount: Month 1**	**Actual Amount: Month 2**	**Actual Amount: Month 3**
INCOME:				
Wages/Income	$3,200.00	$3,200.00	$3,200.00	$3,200.00
DEPOSIT TO SAVINGS ACCOUNT	$500.00	$500.00	$500.00	$500.00
EXPENSES:				
Rent	$1,000.00	$1,000.00	$1,100.00	$1,100.00
Charitable giving	$100.00	$200.00	$0.00	$75.00
Utilities: Electric, gas, water	$100.00	$100.00	$100.00	$100.00
Utilities: Cable and Internet	$100.00	$100.00	$0.00	$0.00
Phone: Cell phone and land line	$90.00	$90.00	$90.00	$90.00
Food: Groceries	$150.00	$80.00	$200.00	$165.00
Food: Restaurants	$50.00	$133.00	$40.00	$75.00
Food: Morning coffee	$10.00	$17.00	$0.00	$8.00
Health care	$150.00	$150.00	$150.00	$150.00
Transportation: auto insurance	$90.00	$90.00	$90.00	$90.00
Transportation: auto loan payments	$200.00	$240.00	$240.00	$240.00
Transportation: gas	$50.00	$0.00	$35.00	$0.00
Student loans	$300.00	$350.00	$350.00	$350.00
Entertainment: movies, plays	$80.00	$25.00	$100.00	$52.00
Gifts	$50.00	$0.00	$0.00	$0.00
Books	$10.00	$0.00	$10.00	$0.00
Art supplies	$50.00	$10.00	$10.00	$10.00
Cleaning supplies	$20.00	$0.00	$0.00	$10.00
Miscellaneous	$100.00	$77.00	$0.00	$113.00
Total Spending	**$3,200.00**	**$3,162.00**	**$3,015.00**	**$3,128.00**
Money left over to add to savings account	**$0.00**	**$38.00**	**$185.00**	**$72.00**

DID YOU KNOW?

Is giving to charity a part of your monthly budget? Is it a part of most Americans' monthly budgets? Who gives to charity in the United States?

In 2006, Americans donated a record $295 billion to charity, or an average of 2.2 percent of their disposable income. Some of these donations are large sums given by very wealthy people—investor Warren Buffett, for example, pledged to donate $30 billion over 20 years to the Bill and Melinda Gates Foundation. But such large donations make up a small percentage of overall giving. In 2006, 65.0 percent of U.S. households with incomes below $100,000 made charitable contributions.

Who gives the most money? According to a study in 2003, people in Detroit gave a bigger share of their incomes to charity—an average of 12.5 percent annually—than did residents of the nation's 49 other biggest cities. New York City residents gave the second highest share, at 10.9 percent.

HOMEWORK 2.4

Choose one of the fictional persons whose budget you analyzed today. What could you infer about the person's lifestyle or attitudes based on the person's budget and on how his or her monthly spending changed from one month to the next? Write a one-page fictional story or biography about this person that explains the reasons behind some of her financial management decisions.

Continue to track your own spending in your Finance Journal.

FINANCIAL LIVING: CREATE A MONTHLY BUDGET

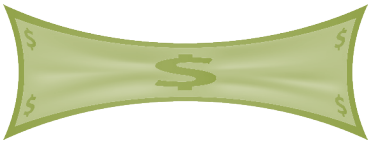
Create a budget for your Financial Living character. Work with your Financial Living team to do the following:

- Calculate your character's monthly disposable income.
- Revisit the list of daily expenses that your class brainstormed earlier. Discuss with your team whether there are any additional expenses that your character might incur each month.
- Use the **Budget Template Spreadsheet** located on the **Ford PAS Web site** to create a Budget Spreadsheet for your character. Modify the template any way you see fit—you may have as many or as few spending categories as you want.

- Use the **Sample Budgets Spreadsheet** that you analyzed and the budgeting recommendations in the reading **Keeping Track: The Importance of Budgeting** as resources to help you consider how much to budget for each category of spending. Think about what percentage of your character's income should go toward rent, transportation, entertainment, and other expenses.

FINANCIAL LIVING: RESOLVE MONTHLY SPENDING DILEMMAS

The budget you've created for your Financial Living character is a set of guidelines that you want him or her to follow. But is it realistic? Can your character really find an apartment or house in a convenient neighborhood within the budget you set? Will the price of fuel allow your character to keep the heating bill within the budget you set? Work with your Financial Living team to read through and resolve the Monthly Fixed Expenses Dilemmas in Part 2 of your **Financial Living Character Packet**.



How will you stretch your dollar?

As you make spending decisions, you can choose to go outside of the budget you set for housing and utilities if you think it's necessary, but if you do that, you will need to go back and modify the rest of your budget accordingly.

HOMEWORK 2.5

Look through the record of your personal spending that you've been keeping in your Finance Journal. Think about the types of things you've been spending money on. Choose five to ten categories that you think will help you manage your spending. (For example, do you want entertainment to be one category, or do you want to differentiate between different types of entertainment?) Calculate what you've spent in each category.

Begin working on your Budget Report. Use the **Budget Report Guidelines** and the **Budget Report Assessment** to help guide your work.

Budget Report Guidelines

Write a report about the original budget you created for your Financial Living character and how you adjusted your character's budget based on his or her actual spending, as well as the effects of the event described on your **Budget Chance and Consequence Card**.

Include the following information in your Budget Report:

1. **Original Budget:** What categories of spending did you choose for the budget? Why did you choose these categories? What percentage of your character's monthly gross income did you allocate to each category? What factors did you take into consideration when you chose how much money to allocate to each category? Include a pie chart or other type of graph that shows the original budget.
2. **Housing and Utilities Decision:** Which housing option did you choose for your character? Why? What factors were most important? How did this option fit in with the original budget you set?
3. **Actual Spending Comparison:** How did your character's spending for the two sample months measure up to the budget you created for your character? Use graphs or tables to support your explanation.
4. **Budget Chance and Consequence Card:** Explain the event described in your Chance and Consequence Card. What effect did it have on your character? What effect did it have on your character's budget?
5. **Modified Budget:** Describe how you modified your character's original budget based on your housing decision, your analysis of your character's actual spending, and the **Budget Chance and Consequence Card**. Use a graph or table to represent the modified budget and to compare the original budget with the modified budget.

FINANCIAL LIVING: TRACK SPENDING

Once you make your decisions about housing and utilities, adjust your Financial Living character's Budget Spreadsheet accordingly. As you know, one of the best ways to manage your finances is to keep track of every single thing you spend money on. Looking at your actual spending will help you adjust your budget to make it realistic; continuing to keep track of your spending will help you stick to that budget. Your character's **Monthly Spending Spreadsheet** lists everything your character spent money on for the past two months (not counting the fixed costs of rent and utilities). Download your character's **Monthly Spending Spreadsheet** from the **Ford PAS Web site** and work with your Financial Living team to organize and analyze your character's spending.

Complete the following steps:

1. Go through each item on your character's monthly spending sheet and figure out which of your budget categories each item fits into. You may decide after analyzing all the expenses that you have to modify your character's Budget Spreadsheet and even create different categories. For now, do do your best to assign each expense to the appropriate category.
2. Calculate what your character actually spent on each category for each of the two sample months and input those numbers to your character's Budget Spreadsheet in the columns labeled Actual Amount: Month 1 and Actual Amount: Month 2.

FINANCIAL LIVING: BUDGET ANALYSIS

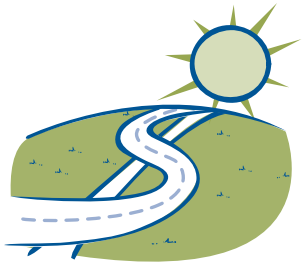
Once you've completed the Actual Amount columns of your character's Budget Spreadsheet, discuss the following questions with your Financial Living team:

1. In which categories did your Financial Living character meet the constraints set by your budget?
2. In which categories did your character go over budget? Which categories had the greatest discrepancy between budget and actual spending? Express the discrepancies first in dollar amounts and then in terms of percentages. For example, if your character budgeted $200 for groceries and spent $210, your character went over the grocery budget by 5 percent ($10 divided by $200 is 0.05; $10 is 5 percent of 200).

3. Create a graph that best illustrates how your character's actual spending compared to the original budget for at least two categories of spending.
4. What specific recommendations would you make to your character about how to better manage his or her spending? Why?
5. What changes, if any, do you need to make to the categories of your budget? For example, do you need to add any categories? Do you need to combine any categories?
6. What changes, if any, would you like to make to the amount of money budgeted for each category? Were any aspects of your budget unrealistic? Do you want to budget more for any categories?

Create a new worksheet, label it Adjusted Budget 1, and make the appropriate changes to your character's Budget Spreadsheet, given your analysis.

FINANCIAL LIVING: BUDGET CHANCE AND CONSEQUENCE



Before you finalize your Financial Living character's budget . . . You can plan as best you can, but in life there are always unexpected events and obstacles. Read the scenario presented to you on your **Budget Chance and Consequence Card**. Discuss with your Financial Living team how your character should respond to the event described on your card. Then adjust your character's Budget Spreadsheet accordingly.

HOMEWORK 2.6

Continue to analyze your spending. Create a graph or table in your Finance Journal that shows what percentage of your total spending was spent in each category.

Continue working on your Budget Report.

HOMEWORK 2.7

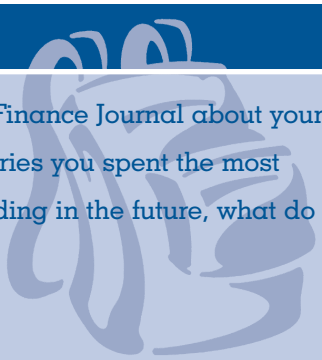
Complete your Budget Report.

Read **Banking on the Future** and answer the **Questions for Reflection**.

DISCUSS BUDGET ANALYSIS

Share the recommendations your Financial Living team made to your Financial Living character for managing his or her spending, and discuss the challenges you faced when creating a budget.

HOMEWORK 2.8



Continue to analyze your spending. Write an entry in your Finance Journal about your spending analysis. Were you surprised about which categories you spent the most money in? Why or why not? If you had to reduce your spending in the future, what do you think you could spend less on?

Continue working on your Budget Report.

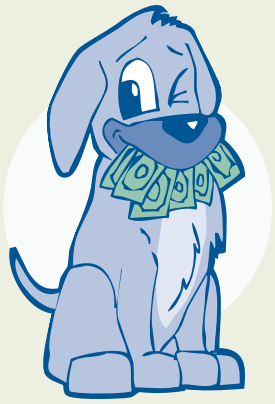
EXTENSION

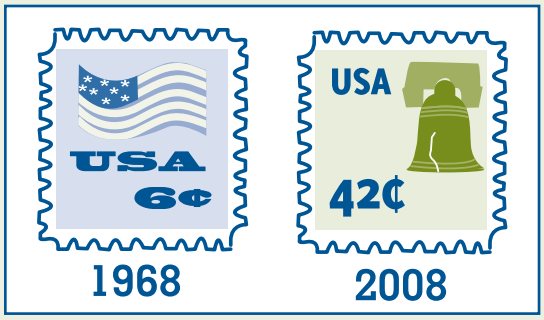
2.1

Conduct research on the industry in which your Financial Living character works. What are the types of jobs available in this industry? What are the education requirements and opportunities? What are the ranges of salaries? Create an Industry FAQ sheet for people interested in pursuing work in this industry.

Banking on the Future

Having a good budget in place will help you manage your spending and allow you to start saving money to achieve your short- and long-term financial goals. There are different ways to save money. Some people simply stash their extra cash and coins in a jar at home, which has its advantages. Say that you suddenly need some emergency ice cream—you can access the money whenever you want and get your ice cream right away. But there are some disadvantages as well. One is that your money is not secure or insured. If something happens to that money—if, for example, a burglar robs your house, or if your dog gets into your stash and starts chewing on your cash—your money will be gone, and no one will repay you for the cash that you lost.





Another disadvantage of keeping your savings at home is that as the economy experiences inflation, your money actually loses value as it sits in your jar. **Inflation** is the rise in the general level of prices of goods and services. For example, let's say that when your mother was a child, she went to the store with a $5 bill to buy a gallon of milk, which cost $1.75. Imagine that instead of buying the milk, she held on to that $5 bill for 10 years. Then she returned to the same market 10 years later and found that the gallon of milk was now $2.75. Her $5 bill now buys significantly less milk than it could have bought 10 years earlier. With inflation, as the price of goods rise, each of your dollars loses value and loses its purchasing power.

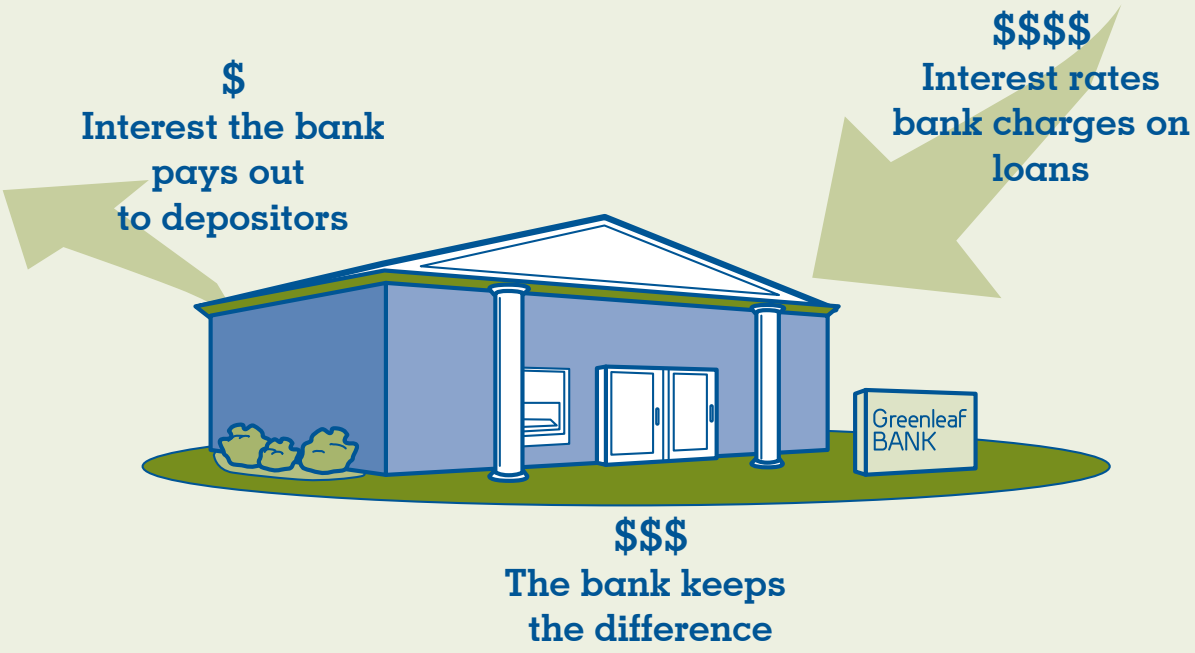
Putting money in the bank, on the other hand, is safer and more secure than keeping your money at home; banks also provide an opportunity for your money to grow and keep up with inflation. Why is your money safe in a bank? And how will your money grow? To understand the benefits of banks, it's helpful to learn a little bit about what banks are and how they work.

What Is a Bank?

A **bank** is a type of business; instead of selling a product, like food or clothing, banks sell financial services. Banks give loans to people, and they give people a safe place to keep their money. When you open an account at a bank, you essentially lend the bank your money. The money that you put in your account is combined with the money that lots of other people put into their own accounts to form a big pool of money. Banks use that pool of money to make loans to other people.

There are different kinds of accounts that you can open at a bank. With some accounts, such as some savings accounts, your money will earn **interest**, which is a fee that banks pay you to temporarily use your money. This is how your money can grow simply by sitting in a bank. But how can banks stay in business if they have to pay you interest on your money? Because they also make loans to other people, and they charge those people interest to borrow money. (Generally, banks charge more interest for loans than they pay for savings accounts; that's how they make money.)

Banks are just one type of **financial institution**, which are organizations involved in collecting money from the public and/or holding, investing, or lending money to people. Financial institutions act as the intermediary between lenders and borrowers in an economy. Another financial institution that provides services similar to those of a bank is a credit union. **Credit unions** are very similar to banks, except that they are nonprofits that are supported by their members. To open an account, you need to become a member of the credit union. Different credit unions have different rules, but generally if you are a member you have a say in some of the credit union's policies, such as its interest rates and whether or not to offer deposit insurance.

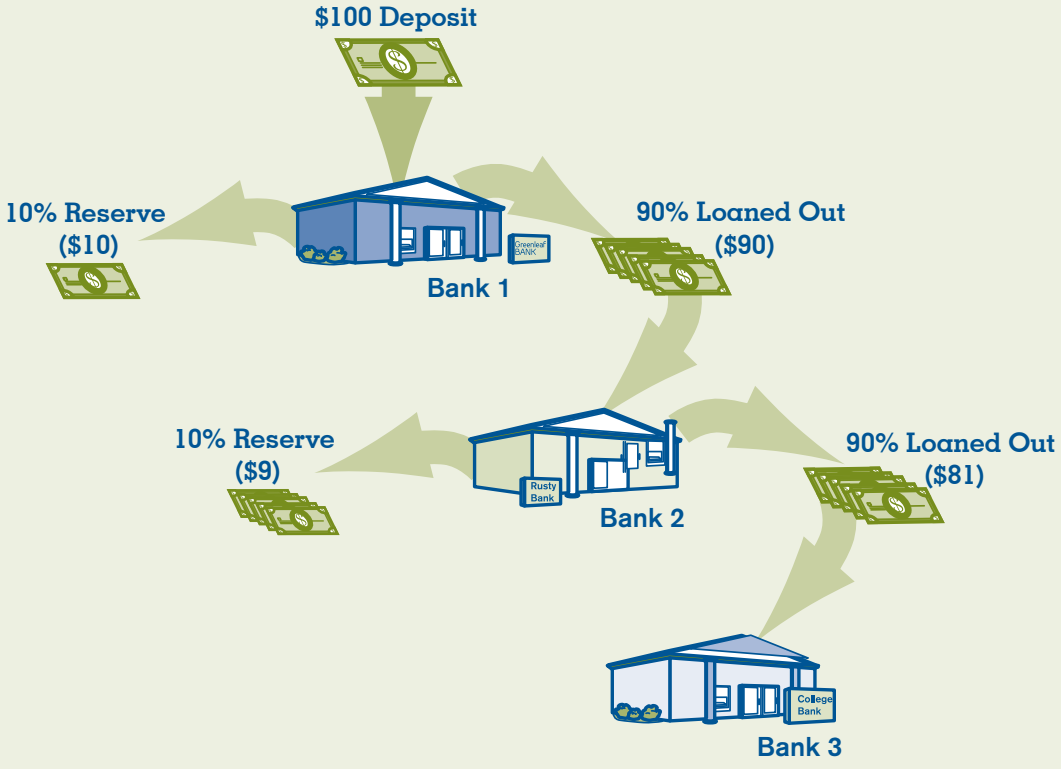


Where Does Your Money Go After You Deposit It?

When you deposit your money in a bank, the bank teller doesn't actually go to the back of the bank and put all your cash into a vault or a cubbyhole with your name on it. Instead, the bank teller makes a record that you have a certain amount of money in your account; the bank then keeps some of your money but puts most of it "to work" by lending it to other people. Banks in the United States are regulated by the **Federal Reserve** (known as the Fed), which was created by Congress in 1913 to serve as the central bank of the United States, manage the country's money supply, and ensure the safety and stability of the banking system. One of the responsibilities of the Federal Reserve is to regulate how much money a bank can lend out. It does this by giving banks a **reserve requirement**, or an amount of money that has to stay in the bank and not be loaned out. This amount can fluctuate, but is usually between 3 and 10 percent of a bank's total deposits.

How Banks "Create" Money

Suppose you deposit $100 into a bank. The bank might be required by the Federal Reserve to keep 10 percent of it, or $10, in the bank itself. The bank can then lend out the other $90. But after it lends your money out, an interesting phenomenon occurs: your money goes back into the economy and might end up being deposited in another bank. If it does, that other bank can lend out, say, $81 of the $90 that's deposited. So you lent your bank $100. That bank lent out $90 of it, then another bank lent out $81. That means that you've deposited $100, but $171 is being lent out to other people. By essentially "re-lending" the same money, banks can put additional money into the economy!



Are Banks Safe?

So what if you've lent the bank your money, and they've lent it to someone else, who's put it into another bank, which has lent it to someone else . . . but now you want your money back? Or what if everyone who's deposited money in the bank suddenly wants his or her money back? Before 1934, this phenomenon caused serious problems. When the economy was not doing well, many people would rush to banks to take all their money out. Sometimes only the first few people in line were able to get their money back. After that, the banks simply ran out of money, since the majority of it had been lent to other people, who, during such an economic crisis, were unable to pay back the money. During the Great Depression, more than 4,000 banks went bankrupt and closed permanently. Many people lost their life savings, as they were unable to get back the money they had deposited in these failed banks.

A crowd of depositors outside the American Union Bank in New York, having failed to withdraw their savings before the bank collapsed, June 30, 1931. (Photo by FPG/Hulton Archive/Getty Images)

Congress responded to the bank failures of the Great Depression by establishing the **Federal Deposit Insurance Corporation (FDIC)** in 1934. The FDIC provides insurance coverage to individuals who deposit money in banks. This means that when you deposit your money in a bank, you are guaranteed to get your money back no matter what happens to that bank. Until 2008, the FDIC insured deposits of up to $100,000 in checking and savings accounts. In response to the global financial crisis that began in October 2008, the U.S. Congress passed a law that temporarily increased FDIC insurance to cover accounts of up to $250,000. Most banks in the United States are FDIC-insured, but not all. To verify that a bank is insured, look for the FDIC logo or the term *FDIC-insured* on the bank's Web site.

Questions for Reflection

1. Why do you think some people are afraid of putting money into banks?
2. What are the benefits of putting money in a bank (or similar financial institution) instead of keeping it at home?
3. When choosing a bank, what qualities might you look for?
4. What are the pros and cons of allowing banks to "create" new money by lending the same money more than once?

ACTIVITY 3:
For Safekeeping: The Growing Interest in Banking

INTRODUCTION

Paying for college, buying a car or a computer, or achieving any of your other financial goals can seem daunting. Money doesn't grow on trees, of course. But fortunately, it does grow on itself. Banks and other financial institutions offer different savings options that allow your money to earn interest and grow. In this activity, you'll explore the benefits and challenges of creating a savings plan. You'll consider how interest rates, the amount you save, and the amount of time your money is in the bank affect how much your savings will be worth in the future. You'll set financial goals for your Financial Living character and evaluate options for helping your character develop a savings plan to achieve his or her goals.

Learning Goals

- Identify the opportunity costs of and incentives for saving money.
- Analyze and explain the relationships among time, amount saved, and interest rate to explain the effect of these variables on savings growth.
- Analyze exponential functions and exponential growth to predict savings over time.

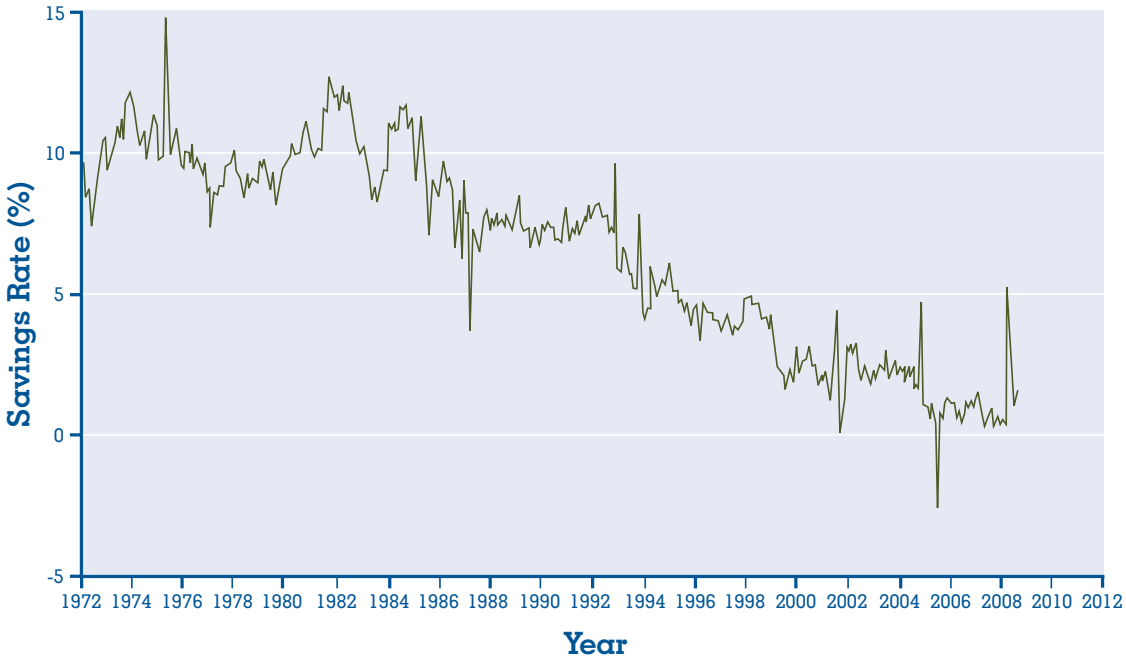
FOR YOUR GLOSSARY

Asset
Bank
Certificate of deposit (CD)
Compound interest
Credit union
Effective annual interest rate
Federal Deposit Insurance Corporation (FDIC)
Federal funds rate
Federal Reserve
Financial institution
Inflation
Interest
Interest rate
Liquidity
Money market account
Nominal annual interest rate
Principal
Reserve requirement
Simple interest

WHY SAVE?

According to several studies, Americans on average don't save very much money and have been saving less and less money each year. **Figure 3.1** shows that from 1972 to 2008, the average U.S. personal savings rate—which is the percentage of a person's annual income that is saved—fell from about 9 percent to about 1 percent.

Figure 3.1: Personal Savings in the U.S. as a Percentage of Disposable Income (1972–2008)



Why do you think so many people don't save much, if any, of their money? Why is it important to save money? Brainstorm a list of reasons why people might not save money, and then brainstorm a list of reasons for saving money.

CALCULATING SIMPLE INTEREST

In **Banking on the Future**, you read about reasons to deposit your savings into a bank rather than keep it all at home. One reason for using a bank is that you can earn interest on the money you put into a bank. Banks offer different kinds of savings options, each with a different interest rate. Imagine that you put $200 into a bank account that offers a 5 percent annual interest rate. The $200 is considered your **principal**, or the amount of your original investment. The **interest rate** is the percentage of your principal that the bank pays to you as a fee for "borrowing" your money.

To find 5 percent of $200, use multiplication:

$$\text{Interest} = \$200 \times \frac{5}{100} \text{ or}$$

$$\$200 \times 0.05 = \$10$$

So after one year you would have earned $10 in interest.

Simple interest is interest you earn only on your principal, or the original amount that you invested. For example, if you left $200 in an account for two years and earned 5 percent annual simple interest, then you would receive $20 in interest (or 2 years × $10 of interest each year).

To find out the simple interest earned after three years, you would multiply the interest earned in one year by three—and so on.

WHEN FINDING PERCENTAGES . . .

Remember that percent (%) means "for every one hundred."

So 5% is the same thing as 5 for every 100, or 5 out of 100, which can also be written as $\frac{5}{100} = 0.05$. This means that 25% is the same as 25 for every 100, or $\frac{25}{100}$, or 0.25.

Other examples:

$$4\% = \frac{4}{100} = 0.04$$

$$32\% = \frac{32}{100} = 0.32$$

$$100\% = \frac{100}{100} = 1.00$$

$$105\% = \frac{105}{100} = 1.05$$

Year	Annual Interest Earned	Total Amount of Interest Earned
1	$200 × 0.05 = $10	$10
2	$200 × 0.05 = $10	$10 × 2 = $20
3	$200 × 0.05 = $10	$10 × 3 = $30

In order to generalize this process, it is useful to introduce letters to symbolize variables:

Let P = principal amount

R = interest rate (expressed as a percent or its decimal equivalent)

T = time in years

I = interest earned

Then you have the following expression for calculating simple interest:

$$\underset{\text{Interest}}{I} = \underset{\text{Principal}}{P} \times \underset{\text{Rate}}{R} \times \underset{\text{Time}}{T}$$

Suppose you invest $350 in an account that earns simple interest at 3 percent. What is the amount of interest you'll have earned after four years?

$P = \$350$

$R = 3\% = \frac{3}{100} = 0.03$

$T = 4$ years

$I = P \times R \times T = \$350 \times 0.03 \times 4 = \$42$

The interest you'll have earned after four years is $42.

So how much money in total do you have in the bank? Your account total is the original amount you deposited plus the interest earned after four years, or $350 + $42 = $392.

WHAT IS A VARIABLE?

A variable is a quantity that has the potential to change. For example, the interest earned on a principal amount changes with time; as time increases, the interest increases. Interest earned also depends on the interest rate; if the interest rate is lowered, the amount of interest earned will decrease, and vice versa.

In mathematics, letters are often used to represent variables. Often letters are chosen that relate to the variable they represent. For instance, we typically use P to denote the amount of principal. It is useful to think of principal as a variable because this lets you see what interest you would earn on different initial amounts of money.

CALCULATING COMPOUND INTEREST

Simple interest is pretty straightforward and simple (thus the name!). But in reality, banks don't pay simple interest on the money in your savings account; they pay compound interest. **Compound interest** is interest that you receive on *all* of the money in your account—not only on the initial amount (the principal) but also on the interest already earned.

For example, let's say that your bank account earns 5 percent compound interest and is calculated once a year. This means that after one year, the interest you will have earned is:

$$\$200 \times 0.05 = \$10$$

That's the same as you had earned with simple interest. Thus the total amount you have in the bank at the end of one year is:

$$\$200 \text{ (principal)} + \$10 \text{ (interest earned)} = \$210 \text{ (new total)}$$

What happens during the second year?

In the second year, instead of earning another $10 (5 percent on your original $200), your account earns 5 percent on this *new* total, $210.

Year	Annual Interest Earned	Total Amount in Your Account
1	$200 × 0.05 = $10	$200 + $10 = $210
2	$210 × 0.05 = ?	

Answer the following questions:

1. How much interest would you earn during the second year?
2. How much money in total would you have in the bank at the end of the second year?
3. How much interest would you earn during the third year?
4. How much money in total would you have in the bank at the end of the third year?
5. Imagine that you've left your original $100 deposit untouched in the bank for 20 years. Make an educated guess. How much money do you think you would have in total after 20 years if you received 5 percent compound interest?
6. How many years do you think it will take for your original $100 to double? Triple?

CHECK SAVINGS GROWTH PREDICTIONS WITH EXCEL

Create a Calculating Compound Interest Spreadsheet that will allow you to check your predictions about how savings will grow with compound interest over time. Then look at your results and answer the following questions:

1. How do your predictions about when the original amount will double and triple compare with the information from your spreadsheet?
2. What patterns or trends do you notice in your spreadsheet?

Use your spreadsheet to experiment with different interest rates (for example, 1 percent and 25 percent) and different principal amounts (such as $10 and $10,000). Use your findings to answer these questions:

3. Does the size of the principal amount affect how soon it will double?
4. Does the interest rate affect how soon the principal will double? Do you think there can be an interest rate that will not ever lead to the doubling of the principal?

DOUBLING YOUR PRINCIPAL—THE RULE OF 72

Do you want a quick way to predict how fast your money will grow? The rule of 72 is a way to estimate how long it will take your money to double, based on the interest rate on your account.

To apply the rule of 72, simply divide 72 by the interest rate to find out the number of years it will take your money to double.

$$\text{Doubling Time} = \frac{72}{\text{(Interest Rate as a Percent)}} \quad \text{OR}$$

$$= \frac{0.72}{\text{(Interest Rate in Decimal Form)}}$$

For example, suppose you put the same amount of money into two different accounts. Account A compounds interest at a yearly rate of 3 percent, and Account B compounds interest at a yearly rate of 4 percent.

In Account A, assuming that you do not withdraw (or deposit) money throughout the year, the principal will double in approximately $\frac{72}{3}$ (or $\frac{0.72}{0.03}$) = 24 years.

In Account B, again assuming that you make no withdrawals or additions, the principal will double in approximately $\frac{72}{4}$ (or $\frac{0.72}{0.04}$) = 18 years.

HOMEWORK 3.1

Complete **Simple or Compound?**, decide which account you would prefer, and explain your reasoning.

WHICH FACTOR INFLUENCES SAVINGS GROWTH THE MOST?

So far you've learned that the amount of principal, the interest rate, and the length of time money is left in the bank all have an effect on how much money you have in total. If you were trying to maximize your savings, which of those variables (principal, interest rate, or time) would you be most concerned with? Which variable has the biggest effect on the total amount of savings you have, assuming your account earns compound interest once a year (annually)?

Which Savings Option Is Best?

Explore the effects of different variables by answering the following questions. Note that all of the following savings plan options allow you to earn *compound* interest.

1. Make a prediction: Which of the following savings options do you think will yield the most money?
   - $200 at a 5 percent annual interest rate for 10 years
   - $100 at a 10 percent annual interest rate for 10 years
2. Make a prediction: Which of the following savings options do you think will yield the most money?
   - $200 at a 5 percent annual interest rate for 30 years
   - $100 at a 10 percent annual interest rate for 30 years

After you make your predictions, use your Calculating Compound Interest Spreadsheet to calculate the results and check your predictions.

3. What conclusions can you now make about the way that interest rate and time affect the total amount of money?
4. Use your conclusions to make a decision about which of the following savings options would yield more money:
   - $200 at a 5 percent annual interest rate for 40 years
   - $100 at a 10 percent annual interest rate for 40 years

DID YOU KNOW?

Just how much does time work in your favor? With compound interest, it really pays to start early. Consider the stories of Ernesto and Isaac.

When Ernesto turned 22, he started an aggressive savings plan—he saved $200 a month, or $2,400 a year. He put his money in an account that earned 6 percent interest. He did this for 10 years, putting in $2,400 each year. Then he stopped putting additional money in the account and just let the money that was already there grow until he turned 65.

Isaac, on the other hand, did not start saving until he turned 40. He put the same $2,400 in an account that earned 6 percent interest each year for 25 years, until he turned 65.

Ernesto invested a total of $24,000.

Isaac invested a total of $60,000.

Both Ernesto and Isaac had compound interest on their side.

Who do you think had more money in his account at the age of 65? (*Once you think you know, check for the answer below!)

Look at **Table 3.1** and **Table 3.2**, which show the actual numbers.

*Ernesto had time on his side as well. And the more time his money had to grow, the more benefit he received from compound interest. So Ernesto did—about $77,000 more!

Table 3.1: Ernesto's Savings

Investing $2,400 a year at 6 percent interest from age 22 to age 31

Age	Savings at Beginning of Year	Yearly Deposit	Interest Earned	Savings at End of Year
22	$0.00	$2,400.00	$144.00	$2,544.00
23	$2,544.00	$2,400.00	$296.64	$5,240.64
24	$5,240.64	$2,400.00	$458.44	$8,099.08
25	$8,099.08	$2,400.00	$629.94	$11,129.02
26	$11,129.02	$2,400.00	$811.74	$14,340.76
27	$14,340.76	$2,400.00	$1,004.45	$17,745.21
28	$17,745.21	$2,400.00	$1,208.71	$21,353.92
29	$21,353.92	$2,400.00	$1,425.24	$25,179.16
30	$25,179.16	$2,400.00	$1,654.75	$29,233.91
31	$29,233.91	$2,400.00	$1,898.03	$33,531.94
32	$33,531.94	$0.00	$2,011.92	$35,543.86
33	$35,543.86	$0.00	$2,132.63	$37,676.49
34	$37,676.49	$0.00	$2,260.59	$39,937.08
35	$39,937.08	$0.00	$2,396.22	$42,333.30
37	$42,333.30	$0.00	$2,540.00	$44,873.30
38	$44,873.30	$0.00	$2,692.40	$47,565.70
39	$47,565.70	$0.00	$2,853.94	$50,419.64
40	$50,419.64	$0.00	$3,025.18	$53,444.82
41	$53,444.82	$0.00	$3,206.69	$56,651.51
42	$56,651.51	$0.00	$3,399.09	$60,050.60
43	$60,050.60	$0.00	$3,603.04	$63,653.64
44	$63,653.64	$0.00	$3,819.22	$67,472.86
45	$67,472.86	$0.00	$4,048.37	$71,521.23
46	$71,521.23	$0.00	$4,291.27	$75,812.50
47	$75,812.50	$0.00	$4,548.75	$80,361.25
48	$80,361.25	$0.00	$4,821.68	$85,182.93
49	$85,182.93	$0.00	$5,110.98	$90,293.91
50	$90,293.91	$0.00	$5,417.63	$95,711.54
51	$95,711.54	$0.00	$5,742.69	$101,454.23
52	$101,454.23	$0.00	$6,087.25	$107,541.48
53	$107,541.48	$0.00	$6,452.49	$113,993.97
54	$113,993.97	$0.00	$6,839.64	$120,833.61
55	$120,833.61	$0.00	$7,250.02	$128,083.63
56	$128,083.63	$0.00	$7,685.02	$135,768.65
57	$135,768.65	$0.00	$8,146.12	$143,914.77
58	$143,914.77	$0.00	$8,634.89	$152,549.66
59	$152,549.66	$0.00	$9,152.98	$161,702.64
60	$161,702.64	$0.00	$9,702.16	$171,404.80
61	$171,404.80	$0.00	$10,284.29	$181,689.09
62	$181,689.09	$0.00	$10,901.35	$192,590.44
63	$192,590.44	$0.00	$11,555.43	$204,145.87
64	$204,145.87	$0.00	$12,248.75	$216,394.62

Ernesto's Total Contribution: $24,000
Ernesto's Total Savings on his 65th birthday: $216,394.62

Table 3.2: Isaac's Savings

Investing $2,400 a year at 6 percent interest from age 40 to age 64

Age	Savings at Beginning of Year	Yearly Deposit	Interest Earned	Savings at End of Year
40	$0.00	$2,400.00	$144.00	$2,544.00
41	$2,544.00	$2,400.00	$296.64	$5,240.64
42	$5,240.64	$2,400.00	$458.44	$8,099.08
43	$8,099.08	$2,400.00	$629.94	$11,129.02
44	$11,129.02	$2,400.00	$811.74	$14,340.76
45	$14,340.76	$2,400.00	$1,004.45	$17,745.21
46	$17,745.21	$2,400.00	$1,208.71	$21,353.92
47	$21,353.92	$2,400.00	$1,425.24	$25,179.16
48	$25,179.16	$2,400.00	$1,654.75	$29,233.91
49	$29,233.91	$2,400.00	$1,898.03	$33,531.94
50	$33,531.94	$2,400.00	$2,155.92	$38,087.86
51	$38,087.86	$2,400.00	$2,429.27	$42,917.13
52	$42,917.13	$2,400.00	$2,719.03	$48,036.16
53	$48,036.16	$2,400.00	$3,026.17	$53,462.33
54	$53,462.33	$2,400.00	$3,351.74	$59,214.07
55	$59,214.07	$2,400.00	$3,696.84	$65,310.91
56	$65,310.91	$2,400.00	$4,062.65	$71,773.56
57	$71,773.56	$2,400.00	$4,450.41	$78,623.97
58	$78,623.97	$2,400.00	$4,861.44	$85,885.41
59	$85,885.41	$2,400.00	$5,297.13	$93,582.53
60	$93,582.53	$2,400.00	$5,758.95	$101,741.48
61	$101,741.48	$2,400.00	$6,248.49	$110,389.97
62	$110,389.97	$2,400.00	$6,767.40	$119,557.37
63	$119,557.37	$2,400.00	$7,317.44	$129,274.81
64	$129,274.81	$2,400.00	$7,900.49	$139,575.30

Isaac's Total Contribution: $60,000
Isaac's Total Savings on his 65th birthday: $139,575.30

HOMEWORK 3.2

Read **Exponential Growth: Growing Faster and Faster** and answer the **Questions for Reflection.**

Exponential Growth: Growing Faster and Faster

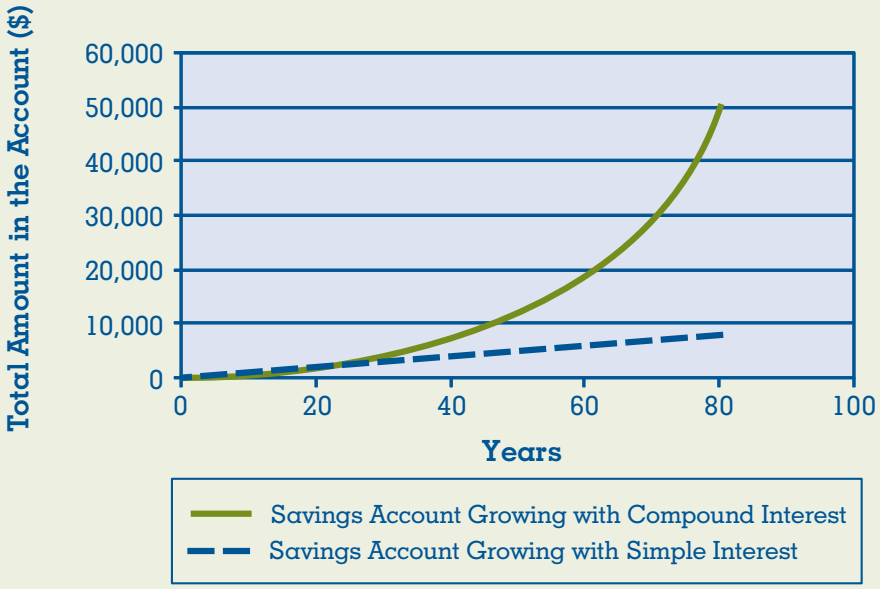
Have you ever heard the expression "it grows exponentially"? This phrase is used in everyday life to describe the behavior of a quantity that grows faster and faster as time goes by. For instance, you know that investing money in a compound interest account causes the total amount in your account to grow faster and faster as time passes. Even though the percentage of interest you earn is the same from year to year, the *amount* of the interest increases each year because it is being calculated on increasing amounts of money (the principal plus all previous interest earned). While the *percent change* is constant with compound interest (for example, 5 percent each year), the *total change* is not constant. Why? Because each year that the money is in the account, the percentage is taken of a larger amount of money.

Linear Growth Versus Exponential Growth

Remember how simple interest and compound interest differ? With simple interest, the amount of money saved grows at a constant rate—the same amount of money is added at the end of each year. A graphical representation of this situation (a graph of the total amount in the account as a function of time) is a straight line, or a linear function (as shown by the dashed line in **Figure 3.2**). When a quantity increases at a constant rate, it displays linear growth.

With compound interest, the amount of money saved grows faster as time goes by because interest is calculated each year on the entire amount in the account, including previous interest payments. While the amount of interest earned changes (and increases each year), the percentage of money added does not. In other words, the amount of money increases by a constant percentage, for example, 5 percent interest on the previous year's amount. When a quantity increases by a constant percentage, it grows exponentially, and its graph is a curve (as shown by the solid line in **Figure 3.2**).

Figure 3.2: Comparison of Simple Interest and Compound Interest



Questions for Reflection

Imagine that you are offered three different allowance plans:

Plan A: Five dollars each week

Plan B: One penny for the first week and then twice as much each week as you received the previous week

Plan C: A dollar for the first week, and then a dollar more each week than you received the previous week

1. Which allowance plan would you prefer? Why?
2. Which, if any, of the three allowance plans is an example of exponential growth?
3. Which, if any, of the three allowance plans is an example of linear growth?

THE POWER OF COMPOUND INTEREST

Consider the following scenario:

> Suppose Jim opens a savings account with a principal amount of $200, and the bank compounds yearly at an interest rate of 5 percent. How much will he have in his account in 20 years?

Earlier you created a Calculating Compound Interest Spreadsheet that allowed you to compute this answer. You can also use a formula to figure out the answer. Here's how to find the formula:

Let A = total amount of money

P = amount of principal

R = interest rate (expressed as a percent or its decimal equivalent)

T = time in years

I = amount of interest earned

After one year, Jim will have:

Principal plus Interest = Total Amount:

$200 + 0.05($200)

You can rewrite that expression as follows:

1($200) + 0.05($200) or

$200(1 + 0.05)

(See **Factoring** for the algebraic explanation of why these expressions are equivalent.)

FACTORING

In mathematics, it is often useful to write the same expression in different forms. This allows you to look for patterns within different processes. Factoring—using the distributive property to look at the component parts of a number or expression—is often used for this purpose.

Remember, the distributive property states that:

$$ab + ac = a(b + c)$$

After one year of saving, the expression for the total amount of money in Jim's account can be written as the original principal plus the interest earned:

$200 + $200(0.05)

Using the distributive property, you can pull out the factor that is common to both terms in the expression—in this case, $200:

$200(1) + $200(0.05)

$200(1 + 0.05)

Note that the three expressions circled above are equivalent.

You can do this with simpler numbers, too:

$$6 + 24 = 6(1) + 6(4) = 6(1 + 4) = 6 \times 5 = 30$$

Although with simpler numbers it is easier to just add 6 and 24 (sometimes factoring is more useful than at other times!), you see that you obtain the same result by pulling out a common factor of 6 from both terms in the original expression.

Factoring will help you generalize the process of compounding interest for Jim's case.

After two years, Jim will have the total from the first year [$200(1 + 0.05)] plus the interest he then earned on the first year total amount:

$$[\$200(1 + 0.05)] + 0.05\ [\$200(1 + 0.05)]$$

Notice that in this expression the factored form of the first year total is used rather than simply writing $210. This step reveals patterns that will help you write the general formula. The above expression contains two terms added together, each with a common factor of [$200(1 + 0.05)]. The common factor is highlighted.

By factoring, you can express Jim's total after two years as:

$$1 \times [\$200(1 + 0.05)] + 0.05 \times [\$200(1 + 0.05)]$$

$$= [\$200(1 + 0.05)] \times (1 + 0.05) = \$200 \times (1.05) \times (1.05)$$

By using exponents, you can create a new, equivalent expression for the total amount of money after two years:

$$\$200(1 + 0.05)^2$$

So what happens in the third year? Rather than computing the actual amount Jim has after two years, use the previous expression to represent this amount. After three years, Jim will have:

$$[\$200(1 + 0.05)^2] + 0.05[\$200(1 + 0.05)^2]$$

Total in Year 2 — **Interest earned on the Year 2 total**

Factoring out the expression in brackets, you can write:

$$[\$200(1 + 0.05)^2](1 + 0.05) = \$200(1 + 0.05)^3$$

WORKING WITH EXPONENTS

When the same number is multiplied by itself, you can use an exponent to condense this expression. For example, 3×3 can be written 3^2. The exponent (the superscripted number) represents the number of times you multiply a number or expression by itself. Thus, $3 \times 3 \times 3 \times 3 = 3^4$, since 3 is multiplied by itself 4 times.

Exponents can be used with larger numerical or algebraic expressions.
For Jim's case, note that $(1 + 0.05)$ is multiplied by itself an increasing number of times. After three years, the following expression represents the amount of money in his account:

$$\$200(1 + 0.05)(1 + 0.05)(1 + 0.05) = \$200(1 + 0.05)^3$$

Now that you know how to find Jim's total amount of money after one, two, and three years, you'll continue that pattern in order to find a general formula for determining the amount of money he'll have after *any* number of years. Use the following table to determine Jim's total amount of money after 4, 5, 6, . . . T years. Note that in the table, 1.05 and (1 + 0.05) are used interchangeably.

Year (T)	Total Amount After T Years (A)	Total Amount After T Years Using Exponents (A Expressed with Exponents)
0	\$200	\$200
1	\$200(1 + 0.05) = \$200(1.05)	\$200$(1.05)^1$
2	\$200(1 + 0.05)(1 + 0.05) = \$200(1.05)(1.05)	\$200$(1.05)^2$
3		
4		
5		
6		
. . .	. . .	. . .
T		

How to Find the Total Amount After Any Number of Years: Now you can write a formula that generalizes your findings. Ideally you want a formula that can be used for *any* savings account, compounded annually at *any* rate you specify, and left in the account for *any* number of years you want.

Jim's example shows how to begin to determine this formula. Again, use the variables A and T to represent total money and time, respectively.
Jim's total amount of money after T years is:

$$A = \$200(1 + 0.05)^T$$

Use this formula to determine how much money Jim will have after 10 years, and then 20 years.

Now consider how you can generalize this formula. What if you had a situation where the principal was something other than \$200, and the interest rate was something other than 5 percent? What is the general formula for finding the total amount of money after any number of years?

Here's one way to generalize the formula:

Let P = principal (or the initial amount invested) and R = interest rate (expressed in decimal form). Suppose you invest P in a savings account with an annual compound interest rate of R. The following formula gives the total amount of money, A, that you would have in the account after T years, assuming no withdrawals or additional deposits:

$$A = P\,(1 + R)^T$$

HOMEWORK 3.3

Read **The Big Picture of Interest Rates** and answer the **Questions for Reflection**.

The Big Picture of Interest Rates

If you are thinking of opening a savings account at a bank, you might start calling banks or looking at banks' Web sites to find out what interest rates they offer. But where do these rates come from? How do banks set their interest rates?

The interest rates offered by banks are affected by several factors. On one level, it is a simple business decision. Banks assess their competition and set interest rates for savings and other accounts that are high enough to attract customers but low enough for the banks to afford. (Remember that with savings accounts, you are the lender and the bank pays you interest for borrowing your money. Later, when you explore credit cards and other forms of credit, you'll consider how interest rates affect you when you become the borrower.) You'll probably find that at any given time the rates offered by different banks vary, though they tend to be pretty close to one another. In other words, you might find an account at one bank that offers a 3 percent rate and one at another bank that offers a 4 percent rate, but you're not going to find a bank that offers a savings account with a 15 percent rate. (Similarly, the price of a gallon of milk will vary from market to market, but all the prices will fall in the same general range.)

The interest rates offered by banks are also affected by the overall economy and by the decisions made by the Federal Reserve, which can be thought of as the "big bank for all the little banks." The Federal Reserve sets different kinds of interest rates that have an indirect effect on the interest rate offered to you by your local bank. For example, the Federal Reserve sets the **federal funds rate**, which is the interest rate that banks can use when they lend money to other banks. They also set the discount rate, which is the interest rate that banks pay on short-term loans from the Federal Reserve. When the Federal Reserve lowers these interest rates, banks tend to—though not always immediately—lower the interest rates that they charge individuals for loans; in turn, the banks also lower interest rates that they offer to customers on their savings accounts. Essentially, when they lower the rates on loans, banks receive less interest from borrowers; therefore, the banks can't afford to pay high interest to the customers who "lend" the banks money. The result is lower interest rates on savings accounts as well.

Why does the Federal Reserve raise and lower interest rates? These rates can have an effect on the economy by indirectly influencing demand. When interest rates overall are lower, borrowing money becomes less expensive. The general effect is for people to become motivated to spend more money, which in turn stimulates economic growth. For example, if you need a loan to buy a car and the interest rates are suddenly much lower than before, you might be more likely to go out and buy a car sooner rather than later. So the Federal Reserve will lower interest rates in order to stimulate economic growth and to get more money into the economy.

However, when people are spending too much money, demand for products and services increases at a faster rate than supply can match. The result can be excessive inflation. In this instance, the Federal Reserve

might raise interest rates, as an effort to slow economic growth and slow inflation. For example, let's say the price of homes is rising rapidly, and the Federal Reserve raises interest rates. Potential home buyers now have to take out home loans at interest rates that are so high it costs them a lot of money, making it difficult to repay the loans. The higher interest rates on loans might influence some people to hold off on buying a home. This would decrease the amount of money people are borrowing and spending, which would in turn slow economic growth and slow inflation.

Questions for Reflection

1. The federal funds rate is the interest rate that banks can charge when they lend money to other banks. Why do you think banks might borrow from other banks?
2. Consider what you know about how the economy is currently doing. Do you think interest rates are relatively low or relatively high right now? Why?

INTEREST COMPOUNDED MORE THAN ONCE A YEAR

Up to this point, you've been working with scenarios in which interest is earned once a year. In reality, interest is usually compounded much more often, such as monthly or daily. However, even if the interest is compounded more than once a year, banks often describe their accounts with the approximate rate of interest you will earn in one year, which is called the **nominal annual interest rate**. In other words, if a bank says it offers savings accounts with 6 percent interest, 6 percent is most likely the nominal annual interest rate, which is the approximate interest you earn in a given year. However, the frequency of compounding affects the exact amount and percentage of interest you earn. That exact percentage of interest that you earn each year is called the **effective annual interest rate**.

Here's how interest compounded more than once a year works:

The annual interest is paid to you in parts. For example, if your bank account has a nominal annual interest rate of 6 percent, and your interest is compounded monthly, you'll get $\frac{1}{12}$ th of 6 percent each month—since there are 12 months in a year—or 0.5 percent each month:

$$\frac{0.06}{12} = 0.005$$

Answer the following questions:

1. If $1,000 were deposited into an account with a nominal annual interest rate of 6 percent compounded monthly, how much would be in the account one month later? Two months later?
2. If $1,000 were deposited into an account with a nominal annual interest rate of 6 percent compounded every two months (six times per year), how much would be in the account two months later?
3. If $1,000 were deposited into an account with an interest rate of 6 percent compounded annually, a year later there would be $1,060 in the account. If the interest were compounded monthly, do you think the amount in the account at the end of a year would be more, less, or the same? What if the interest were compounded every two months?
4. How much difference does the frequency of compounding make to how much money you have in your account?

Use the **Frequency of Compounding Spreadsheet** on the **Ford PAS Web site** to answer the following questions:

5. Imagine that you deposited $2,000 into a savings account with a nominal annual interest rate of 5 percent, compounded monthly. How much would you have in the account 10 years later?

6. Soon after making your deposit, you find another bank account with the same interest rate, but the interest on this one is compounded daily. There is a penalty of $10 for an early withdrawal from your original account. Should you switch? Would it be worth it in 10 years? Why or why not?

USING A FORMULA WHEN INTEREST IS COMPOUNDED MORE THAN ONCE A YEAR

You can use a formula to help you calculate the amount you'll have in your account depending on how frequently the interest is compounded.

Recall the formula for annual compound interest (which assumes that interest is compounded once a year):

$$A = P(1 + R)^T$$

Think about how you would adjust this formula to incorporate these two ideas:

Idea 1: When interest is compounded more than once a year, it is paid in parts.

Idea 2: If you compound N times per year, over T years you are actually compounding $N \times T$ times. For example, if you leave money in a savings account that compounds quarterly (four times per year), over five years, interest will be added a total of $4 \times 5 = 20$ times.

To incorporate these ideas, you divide the interest rate (R) by the total number of times the bank compounds interest (N) (Idea 1), and multiply N by the number of years the money stays in the account (T) (Idea 2). (See **Compound Interest Formula**.)

COMPOUND INTEREST FORMULA

Suppose you invest P in a savings account with a nominal compound interest rate of R (in a decimal form), compounded N times per year. The following formula gives the total amount of money, A, you would have in the account after T years, assuming no withdrawals or additional deposits:

$$A = P\left(1 + \frac{R}{N}\right)^{NT}$$

Consider the following scenario:

> You put $500 into an account that receives 4 percent interest, which is compounded daily. How much money would you have in the account after two years?

Use the compound interest formula to write an equation that would help you solve this problem. Then use a calculator or Excel to compute the answer to this equation.

NOMINAL AND EFFECTIVE ANNUAL INTEREST RATES

As you saw in the **Frequency of Compounding Spreadsheet**, the frequency of compounding makes a difference in how much interest your account actually earns—although not a big difference, it's still a difference. So let's say you have $1,000 in an account with a 5 percent nominal annual interest rate. If interest is compounded once a year, at the end of one year you will earn exactly $50 in interest. If it's compounded monthly, you will earn $51.16. If it's compounded daily, you will earn $51.27. Do all those amounts represent 5 percent earned interest, as you were told when you opened an account with a 5 percent interest rate? Not exactly. The 5 percent, as you learned, is the *nominal* annual interest rate. The exact amount that you earned, as a percentage of your principal, is the *effective* annual interest rate.

So if the interest rate isn't exactly 5 percent, what is it? What percentage of $1,000 is $51.27?

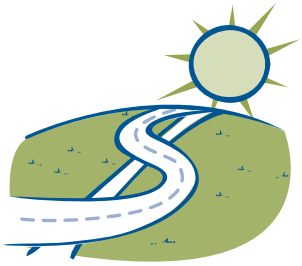
$$\frac{\$51.27}{\$1,000} = 0.05127 \text{ (which you can round up to 5.13 percent)}$$

When compounded daily, your effective annual interest rate is 5.13 percent.

Return to the **Frequency of Compounding Spreadsheet**. Create another column in which you can calculate the effective annual interest for a given account. Then answer the following questions:

1. Imagine that you deposit $500 in an account with a 6 percent nominal annual interest rate. If the interest is compounded once a month, what is the effective annual interest rate? What is the effective annual interest rate if the interest is compounded daily?
2. When would the nominal annual interest rate of an account be the same as the effective annual interest rate of an account?
3. Consider what happens if the bank increases the number of times that the interest is compounded. Will the effective annual interest rate also increase?

FINANCIAL LIVING: SETTING FINANCIAL GOALS



Compound interest works in your favor, especially if you start early and begin saving while you're young. And there are lots of good reasons why people should save money: savings give you a safety net in case of an emergency and help you achieve short- and long-term financial goals.

You're now going to set a goal for your Financial Living character and develop a savings plan to meet that goal. Work with your Financial Living team to read Part 3: Setting a Savings Goal from your **Financial Living Character Packet**.
First, analyze your character's wish list. Choose an item on the wish list that you think is worthy and attainable as a short-term savings goal for your character. Once you choose the item, conduct research to estimate the amount of money your character will need to achieve that goal. Use the resources on the **Ford PAS Web site** to get started with your research. Then work with your team to complete **Financial Living: Exploring Your Character's Goal**.

HOMEWORK 3.4

Read **Banking Options** and answer the **Questions for Reflection**.

Read **Savings Report Guidelines** and the **Savings Report Assessment**, which describe what you should include in your Savings Report. Your report should be completed by the end of Activity 3.

Write an entry in your Finance Journal about something you want to save money for. Why is this savings goal important to you? How much money will you need to save? How much money do you think you could realistically save each week or each month in order to achieve this goal?

Banking Options

You've already learned that if you want to keep your money safe and give it an opportunity to grow, you should think about opening an account at a bank or other financial institution.

If you've never had an account before, the first kind you'll probably want to open is a checking account—an account where you can make deposits and then write checks on the money you've deposited. So instead of taking, say, $500 in cash out of the bank to pay your rent, you can simply write a check to your landlord—assuming you have that amount of money in your checking account.

Checking accounts provide a safe and efficient way to pay bills. Also, many employers have systems where you can have your paycheck directly deposited into your checking account. You can also set up your account so that you can check your balance and conduct other financial transactions online, such as paying bills.

Checking accounts almost never pay interest; if they do pay interest, it will likely be very low. Checking accounts, therefore, are most useful for keeping only the money that you need to spend on a regular basis—such as for rent and other bills.

When you open a checking account, you'll also get an ATM—automated teller machine—card, which allows you to withdraw cash at places other than the bank. You'll find ATMs both inside and outside banks as well as in public places, such as malls and stores. Using your ATM card at such a machine gives you access to your bank account. It allows you to make financial transactions, such as depositing and withdrawing money, without a human bank teller.

Savings Account

If you want a place to keep money that you don't need to spend right away, you'll want to open an account separate from your checking account—preferably one that will earn interest so your money can grow. With a regular savings account you can earn interest on your deposits, but you can't write checks to access that money. Savings accounts are considered low-risk, or safe, because they are insured by the federal government.

Compared to other savings options, regular savings accounts are considered to be very liquid. **Liquidity** means that an asset can be converted into cash quickly. (An **asset** is any good owned by an individual or a business that is worth money, such as property or a bank account.) With regular savings accounts, you can usually withdraw your money at any time without any penalty. Interest rates for savings accounts vary depending on both the bank and the national interest rates, but they tend to be fairly low—anywhere from

0.25 percent to 6 percent. In addition, different savings accounts have different restrictions and terms. For example, some savings accounts require a minimum balance, some charge monthly fees, some are online-only accounts, some are tied to a checking account, and some might give you a token gift—such as a gift card—when you open an account.

Certificate of Deposit

A **certificate of deposit (CD)** is an account that allows you to deposit a specific amount of money for a specific length of time. During that time the money earns a fixed rate. For example, you might open a six-month CD that earns 5 percent interest if you deposit at least $500 in it. Interest on CDs is usually slightly higher than on a regular savings account because CDs are less liquid. You have to leave the money in the CD for the full time period. If you take out any of your money early, you'll have to pay an early withdrawal penalty.

Money Market Account

A **money market account** is an account on which you can earn interest, like a savings account or CD, but you also have limited transaction privileges. This means that you might be able to write checks from your money market account (which you can't do with a savings account or CD), but these are limited to a certain number—say three or four—a month. You are also limited in how many transfers and withdrawals you can make each month. The interest paid on a money market account is usually higher than that paid on a regular savings account, and there is often a minimum balance requirement. Money market accounts are FDIC-insured. Note that money market accounts are different from money market mutual funds, which are investments offered by brokerage firms, and are not FDIC-insured.

Questions for Reflection

1. What common characteristics do you notice among some or all of the savings options?
2. What are some of the differences among the different savings options?
3. If you were going to open an account today, what type of account would you open? Why?

Savings Report Guidelines

Write a report about the savings plan you created for your Financial Living character and how you adjusted your character's budget based on his or her savings goal. Include the following information in your Savings Report:

1. Savings Goal Statement:

Describe the wish list item that you chose for your character's savings goal. Why did you choose this goal? Describe the reasons that you picked this goal over the other items on the wish list.

How much money does your character need to save in order to achieve this goal? Explain how you determined this amount. What resources did you use? What is the target date or length of time needed to achieve this goal?

2. Savings Plan:

Identify the specific account or accounts in which your character will deposit his or her savings. What bank(s) did you choose? What kind(s) of bank account(s) did you choose? Describe why you chose this savings option(s).

What is the nominal annual interest rate of the account(s) you chose? Given this interest rate, how much money does your character need to save each month in order to achieve his or her goal?

Identify specific benchmarks in the achievement of this goal. For example, how long will it take your character to get one-fourth of the way toward his or her goal? How long will it take your character to get halfway to the goal? Include a table or graph that shows this progress.

3. Budget Adjustment:

Describe how you will alter your character's monthly budget in order for your character to save money each month. What spending did you cut back on? Why? How difficult do you think it would be for your character to stick to your budget adjustments? Why? What evidence, if any, do you have that indicates that the budget adjustments are realistic and attainable?

4. SMART Goal Analysis:

Look back on the savings goal and the savings plan you developed for your character. In what ways does it meet the SMART criteria? Justify how and why it is specific, measurable, attainable, relevant, and time-specific.

FINANCIAL LIVING: COMPARE SAVINGS OPTIONS

Now that you have a sense of how much your Financial Living character needs to save in order to reach the goal you've chosen, where do you think your character should put his or her savings? What attributes will you consider when choosing among different savings options? For example, is it important for your character to be able to take out money from the account without paying a penalty? Is a high interest rate important?

Work with your Financial Living team to create a table with variables that you think are most important to consider when choosing a savings plan for your character. Then use the resources on the **Ford PAS Web site** to research actual savings options. Choose five or six options and fill in your table. Make sure that you include at least two different types of savings options in your table. (In other words, you might choose a savings account from one bank and a savings account from another bank, but then you should also include an example of a CD or money market account.)

Once you've completed the table, take a look at it. Are there any variables on the table that take priority over everything else? For example, do you think the interest rate is most important? Is it most important that there are no minimum balances required? Or no monthly fees?

Discuss with your team which characteristics of each savings option should take priority. Then decide as a team which of your savings options is best.

FINANCIAL LIVING: SHARE SAVINGS OPTIONS

Share with the class your Financial Living team's rationale for your decision about which savings option or options to choose for your character's money.

HOMEWORK 3.5

Begin writing your Savings Report. Use the **Savings Report Guidelines** on page 84 and the **Savings Report Assessment** to guide your work.

Consider where you might want to put your own savings in order to achieve one of your savings goals. Write an entry in your Finance Journal that indicates the specific bank and account where you would deposit your money. Include an explanation of why you chose this specific type of account.

FINANCIAL LIVING: CREATE A SAVINGS PLAN

You're on your way to having a savings plan for your Financial Living character. You now know where you want to put your character's savings, which means that you know how much interest your character's money will earn. You also know the total amount that your character needs to save and when your character needs to reach this savings goal.

Now you need to figure out exactly how much money your character will need to save each month in order to reach this goal, given the amount of time your character has to save and the rate at which the savings will earn interest.

Create a Savings Plan Spreadsheet with the following columns:

Number of Months Since First Deposit	Savings Balance at Beginning of Month	Monthly Deposit	Interest Earned During Month	Savings Balance at End of Month

Create formulas that will allow you to calculate the following:

- The interest earned each month on your current balance
- The new balance at the end of each month, after the interest and new deposit are added to the old balance
- The total amount of savings for however many months you estimate your character needs to reach his or her goal

If you do not have information about how often the interest is compounded, assume that it's compounded daily.

Use trial and error to figure out how much money your character will need to save each month to reach the goal in time. For example, let's say your character has a savings account that earns 5 percent interest, and your character wants to save $1,300 in a year. Start by experimenting with saving $100 a month. The first few months of your table would look like the following:

Number of Months Since First Deposit	Savings Balance at Beginning of Month	Monthly Deposit	Interest Earned During Month	Savings Balance at End of Month
1	$0.00	$100.00	$0.42	$100.42
2	$100.42	$100.00	$0.84	$201.26
3	$201.26	$100.00	$1.26	$302.52

Complete the Savings Plan Spreadsheet to see how much money would be in the account after 12 months, or the amount of time your character needs to reach his or her savings goal. Will your character reach this goal by saving $100 a month? If not, adjust the values accordingly until you determine how much your character needs to save each month in order to reach his or her goal.

FINANCIAL LIVING: PUT THE SAVINGS PLAN INTO ACTION

Once you've determined how much your Financial Living character needs to put into savings each month, return to your character's monthly budget. Work with your Financial Living team to decide how you will modify your character's monthly budget in order to achieve his or her savings goal. For example, if your character is going to save $150 a month, where is that $150 going to come from? What spending will you cut back on?

Once you decide where to reduce spending, you will need to provide evidence that the budget adjustment you are asking your character to follow is reasonable and realistic. For example, let's say you allocated $75 a month for phone service, and you want to reduce that to $40. You will need to conduct research and find actual examples of the cheaper phone service. If you are unable to realistically reduce your budget to the extent you planned, you will need to adjust your savings plan—either extend the amount of time your character has to reach the goal, or modify the goal.

FINANCIAL LIVING: ADJUST BUDGET SPREADSHEET

Add a new Adjusted Budget column to your Budget Spreadsheet, and enter your adjusted amounts for each original category, as well as for your savings plan.

FINANCIAL LIVING: SHARE SAVINGS PLAN

Work with your Financial Living team to present your character's savings plan to the class. Prepare to share answers to the following questions:

1. What did you choose as your character's savings goal? Why?
2. How much does your character need to save to reach this goal? How long will it take to achieve this goal?
3. Where will your character put his or her savings? Why did you choose that particular savings option? What is the interest rate?
4. How much per month will your character save?
5. How did you adjust your character's monthly budget in order to allocate that amount to savings?
6. What are the opportunity costs for this savings plan? What is your character giving up in order to achieve this financial goal? What evidence do you have that your character will be able to realistically make these changes to his or her budget?

Present your Financial Living character's savings plan to the class.

HOMEWORK 3.6

Work on your Savings Report.

Prepare to present your Financial Living character's savings plan.

Write an entry in your Finance Journal about something you learned about developing a savings plan that you can apply to your own life.

HOMEWORK 3.7

Complete your Savings Report.

Read **Buy Now, Pay Later: The History of Credit** and answer the **Question for Reflection**.

Complete the **What I Think I Know About Credit and Debt Pretest**.

EXTENSIONS

3.1

Why do you think the rule of 72 works? Use the resources on the **Ford PAS Web site** to research the math behind the rule of 72. Then find a friend or family member and teach them what the rule of 72 is and why it works.

3.2

Choose one of your own goals that has a financial component to it—that is, a goal for which you need to save money. Create a savings plan for this goal by doing the following:

- Set a time for achieving your goal.
- Figure out possible sources of income you have now or will have in the near future.
- Conduct Internet research to find potential bank accounts and other savings options to put your savings in.
- Determine how much money you need to save each month in order to achieve your goal.

Once you have developed a savings plan, write a script for a TV show in which you call a financial planner and describe your savings goal, after which the financial planner helps you go through the process of creating a savings plan step by step.

Buy Now, Pay Later: The History of Credit

"Cash or credit?"

You've probably heard those words asked at the checkout line of a store. What's the difference? What does it really mean to buy something with credit? And why does it matter if you pay with cash or credit?

Credit is money you borrow to buy something now and pay for it later. Although credit cards are a fairly modern invention, the idea of credit—giving someone products or services with the agreement that they'll pay later—has been around for a long time.

An Early Form of Credit in the United States

One of the earliest forms of credit in the United States was customer accounts at individual stores. In the 1800s, for example, many towns had a general store where people would buy goods, such as supplies and food. Often the people who lived in these towns were farmers or workers who earned a low wage and who did not always have a lot of cash on hand. A general store would set up accounts for individuals and families so they could go to the store, buy their supplies or food, and have the store "put it on their account." Later, when the customers did have the cash, they would pay their bill at the store. Store owners rarely charged interest on credit. Instead credit was a convenience offered to customers whom the store owners trusted, or at least believed would pay what was owed in full.

Installment Credit

In the late 1800s the Singer company, a manufacturer of sewing machines, launched a marketing campaign with the slogan "A Dollar Down, A Dollar a Week." The slogan referred to Singer's installment plan, which Singer and other companies began offering in an effort to encourage consumers to buy products with credit that they otherwise would not be able to afford. With **installment credit**, a customer buys a particular product and makes an agreement with the seller to pay the cost of the product in installments, or parts. The "A Dollar Down, A Dollar a Week" example meant that consumers had to pay one dollar up front as a **down payment** and then one dollar each week until the sewing machine—which averaged $30 to $40 in the late 1800s—was paid off.

By the turn of the century, installment plans were common for lots of other products, such as cars, furniture, clothing, and jewelry. With the widespread use of credit cards today, installment plans are no longer used for common products, such as clothing. However, installment plans are still common for car purchases, as well as major appliance and furniture purchases.

Credit Cards

Installment plans are a form of closed-end credit, which means that the borrower takes out a loan for a specific amount that must be repaid by a set due date. Credit cards, on the other hand, are forms of open-ended, or revolving, credit. **Revolving credit** exists when an individual is allowed to borrow money up to a certain amount, which is called the credit limit. Each month the borrower has the option of paying the full balance of the debt or paying a smaller amount that is at least as high as the stated minimum amount due. With revolving credit, as long as borrowers remain under the credit limit, they can keep borrowing and repaying money indefinitely. The earliest revolving credit cards were issued by banks in the 1950s. Today credit cards are issued by credit card companies (such as Visa, MasterCard, and American Express) as well as banks and individual retail stores. (Note that the credit cards offered by retail stores are usually accepted only at that particular store, whereas the cards issued by banks and credit card companies can typically be used at any store at which credit cards are accepted.)

COMMON TYPES OF CREDIT USED TODAY

Credit Cards

- Open-ended accounts used for various kinds of purchases
- Issued by banks, credit unions, stores, and gas stations

Installment Loans

- Typically used for large purchases such as a car or an appliance
- Offered by auto dealers and some stores

Student Loans

- Money lent to be used specifically for tuition and other college (or graduate school) expenses
- Offered by banks, credit unions, and the federal government

Mortgage Loan

- Money lent to be used specifically to purchase a home
- Offered by banks and credit unions

Debt: Good Debt and Bad Debt

When you've borrowed money and haven't yet paid it off, you're said to be in debt. No one likes to owe money, but many people argue that sometimes it's important to borrow money and that some debt is good—or at least productive. The idea of **productive credit** began with the notion that it's OK to borrow money if it means you can eventually earn more money or gain some other important benefit from borrowing. Good debt can be thought of as money borrowed to pay for an asset, or something that has value and will continue to have value. For example, while some farmers starting out in the 1800s were forced to go into debt to buy farmland or machinery, they believed that they would be able to use what they purchased to make enough money through farming to repay the loan and eventually make a profit. Buying a sewing machine was seen to be productive credit for some because it dramatically reduced the amount of time it took to sew clothes, which could potentially save money as well as time. Today, many people will agree that taking loans out for college is "good debt," because a good education is so important for future earning potential.

DEBTORS' PRISONS

Up until the mid-1800s, you could easily get sent to prison for failing to pay your debts. People could be held in notoriously dirty and unpleasant jails for owing as little as 50 cents. Prisoners were required by law to repay the debt they owed and to pay for their imprisonment as well. But once in prison, it was nearly impossible for the person to earn money to pay his debts, so the system didn't really work. As a result, many debtors died in prison.

Charles Dickens, a famous English author, was 12 years old in 1824 when his father was sent to a debtor's prison called Marshalsea. Dickens was forced to leave school and get a job in a factory in order to help support his family. He later based several of his stories and characters on life in debtor's prison.

"And from that hour his poor maimed spirit, only remembering the place where it had broken its wings, cancelled the dream through which it had since groped, and knew of nothing beyond the Marshalsea."

—Quotation from *Little Dorrit* (Dickens, 1855), whose main character's father was imprisoned in Marshalsea, just as Dickens' father had been.

Throughout the 20th century, as the United States industrialized and buying products with credit became more common, it became easier and easier to justify and rationalize big purchases as "productive." The line between using credit out of necessity and using credit out of convenience became blurred, and personal debt became prevalent throughout the United States. Credit card debt increased throughout the second half of the 20th century, with significant increases in the last twenty-five years. Total credit card debt increased from approximately $54 billion in 1980 to more than $945 billion in 2008!

Question for Reflection

Which of the following, if any, do you think are productive credit and therefore "good debt"? Why?

- Student loan for college
- Loan for car
- Credit card loan for clothing
- Loan for new home
- Credit card loan for furniture set

WORRIES ABOUT DEBT HAVE BEEN AROUND A LONG TIME

Too much debt is a big problem for many people today. But even in the United States in the 1800s, people were worried about being in debt, as is evident in the lyrics of the song "Don't Run in Debt," which was written in 1860:

> Then don't run in debt, never mind, keep at work,
> Let your heart be honest and true;
> You'll find it better to wear your old clothes,
> Than to run in debt for the new.
>
> If you've money to spare, I have nothing to say,
> Spend your dollars and dimes as you please,
> But mind you, the man who has a note to pay,
> Is the man who is never at ease;
>
> The man who's in debt is often a slave,
> Tho' his heart may be honest and true;
> Yet he can't hold up his head and look fearless and brave,
> When a note he can't pay becomes due.

ACTIVITY 4:
Borrowing for the Future: Managing Credit and Debt

INTRODUCTION

Cash or credit? Does it really matter? Who gives credit? Who can get credit? What are the advantages of using credit? What are the disadvantages? Is all debt bad debt? And why is compound interest, which works to your advantage when you keep money in a savings account, a potential danger when you use credit? In this activity you'll learn the tools necessary to use and manage credit and debt effectively. You'll plan and finance a major purchase for your Financial Living character and modify your character's budget accordingly. You'll respond to real-world scenarios involving credit and consider the extent to which using credit can help or hurt you in achieving short- and long-term goals.

Learning Goals

- Analyze the relationships among loan principal, interest rate, and time in order to manage credit and debt.
- Identify the advantages and disadvantages of using credit.
- Develop a repertoire of strategies for understanding, analyzing, and evaluating credit card offers, credit card statements, and credit reports.
- Identify the factors that lenders consider when granting credit in order to understand how to become a good credit candidate.

FOR YOUR GLOSSARY

Annual percentage rate (APR)
Appreciate
Balance transfer
Blue Book® value
Capital
Credit
Creditor
Daily periodic rate
Debt-to-income ratio
Default
Depreciation
Down payment
FICO credit score
Finance charge
Grace period
Identity theft
Installment credit
Invoice price
Lease
Lender
Manufacturer's Suggested Retail Price (MSRP)
Negotiation
Productive credit
Revolving credit
Three Cs of credit
Warranty

CASH OR CREDIT?

Consider the following scenario:

WHAT WOULD YOU DO?

Marcella is a senior in high school. The prom is one week away, and she still doesn't know what she's going to wear. She's saved up $150 to buy her outfit. She goes to the popular Paymor Boutique and sees an outfit that is perfect, except that it costs $225. The store manager tells Marcella that if she applies for the store's credit card and uses it for this purchase, she can get 20 percent off the price. What should Marcella do? What would you do? Would you apply for the credit card and buy the outfit? Or would you keep shopping? Why?

Try to put yourself in Marcella's shoes and really imagine what you would do. What are some reasons why you might apply for the credit card? What are some reasons why you might not? Well, guess what Marcella did. Read on . . .

WHAT DOES MARCELLA DO?

Marcella decides to go ahead and apply for the credit card and purchase the outfit. And while she's at the boutique, she figures it's convenient to buy some shoes and accessories with her new credit card, too! A week later, she goes to the prom and has a blast. (And she looks fabulous!) As she's busy enjoying her last summer before college, Marcella doesn't bother to read her mail. Finally at the end of July, her mom asks Marcella to clear up a pile of mail that she's neglected to open. In that pile are two credit card statements.

Look at the first month's statement in **Paymor Boutique Credit Card Statements**.

- Which parts of the statement do you understand?
- What words or phrases, if any, don't you understand?

Try to determine what the numbers on the credit card statement mean and how they were calculated.

Answer the following questions:

1. The current balance plus fees is the total amount of money still owed on this debt.
   a. What was the minimum amount due on July 6?
   b. Where do you think that number came from? (Hint: Figure out what the relationship is between the minimum amount due and the new balance.)
2. Find the APR on the first month's statement. The APR is the annual percentage rate paid on the debt.
   a. What is the APR for this credit card according to the first month's statement?
   b. Find the daily periodic rate. What do you think the daily periodic rate is? Try figuring it out by determining the relationship between the APR and the daily periodic rate.

Now look at the second month's statement in **Paymor Boutique Credit Card Statements**.

3. Why is the second month's statement higher than the first month's statement?
4. What is the finance charge for the statement due on August 4?

If you have time, consider the following:

5. *Finance charge* is another name for the interest charged for each billing period. Think about how interest is earned in savings accounts.
   a. How do you think it's similar to or different from how interest is charged on credit card accounts?
   b. Create a formula that shows how the credit card company determined how much interest to charge Marcella on one of her billing statements.

HOMEWORK 4.1

Read **The Other Side of Interest Rates** and answer the **Questions for Reflection**.

Paymor Boutique Credit Card Statements

Month 1

Paymor Boutique

Prepared for: Marcella
Statement Closing Date: June 14, 2009

Account Number: 3749 1165 2456
Payment Due Date: July 6, 2009

Minimum Payment Due:	**$18.43**
Transaction Fees Due:	**$0.00**
Total Amount Due:	**$460.84**

Summary of Transactions

Credit Line:	$4,000.00
Credit Available:	$3,539.16

Transaction Fees
(None)

Billing Cycle and Payment Information

Previous Balance:	$0.00
Payments and Credits:	$0.00
Purchases and Adjustments:	$460.84
Finance Charge:	$0.00
Current Balance:	$460.84

Transactions

DATE	PURCHASES AND ADJUSTMENTS	AMOUNT
5/16	Paymor: dress, two pairs of shoes, evening bag, shawl, accessories: sunglasses, accessories: jewelry	**$460.84**

Finance Charge Schedule

Adjusted Balance	APR	Daily Periodic Rate	Billing Cycle	Finance Charge
$0.00	**19.99%**	**0.0548%**	**30 days**	**$0.00**

Pay online at www.paymorboutique.com or detach and return this portion with your payment.

Paymor Boutique

Fill in Amount: $ _____

Mail Payments to: Paymor Boutique
PO Box 20431
Jacksonville, FL 30005

Marcella
531 Anylane Road
Anytown, NY 10035

□ New address or e-mail? Check the box at left and print changes on back

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Month 2

Paymor Boutique

Prepared for: Marcella
Statement Closing Date: July 14, 2009

Account Number: 3749 1165 2456
Payment Due Date: August 4, 2009

Minimum Payment Due:	**$18.74**
Transaction Fees Due:	**$35.00**
Total Amount Due:	**$503.41**

Summary of Transactions

Credit Line:	$4,000.00
Credit Available:	$3,531.59

Transaction Fees	
7/7 Late Fee	$35.00

Billing Cycle and Payment Information

Previous Balance:	$460.84
Payments and Credits:	$0.00
Purchases and Adjustments:	$0.00
Finance Charge:	$7.57
Current Balance:	$468.41

Transactions

DATE	PURCHASES AND ADJUSTMENTS	AMOUNT
6/15	Finance Charge	$7.57

Finance Charge Schedule

Adjusted Balance	APR	Daily Periodic Rate	Billing Cycle	Finance Charge
$460.84	19.99%	0.0548%	30 days	$7.57

Pay online at www.paymorboutique.com or detach and return this portion with your payment.

Paymor Boutique

Fill in Amount: $ _____

Mail Payments to: Paymor Boutique
PO Box 20431
Jacksonville, FL 30005

Marcella
531 Anylane Road
Anytown, NY 10035

□ New address or e-mail? Check the box at left and print changes on back

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The Other Side of Interest Rates

Remember that in the previous activity you learned how interest—and compound interest in particular—works in your favor when you save money. By opening up a savings account at a bank, you in effect "lend" money to the bank, and the bank pays you interest on the money it "borrows" from you. The higher the interest rate, the more rapidly your savings grows, because the interest is compounded. With credit—including student loans, auto loans, and credit cards—interest rates have the opposite effect on your wallet. Since you are the one borrowing money from someone else, you have to pay interest on the money you borrow, and the higher the interest rate, the larger your debt can become.

Some credit cards don't charge interest at all. Charge cards, for example, are cards that you can use to make purchases, but you must pay your entire balance each month. These cards don't charge any interest, and they usually don't have a credit limit either. Most credit cards, though, offer **revolving credit**, which means they let you carry a balance on your account and you are charged interest on that balance. The interest rate on a credit card is usually expressed as the **APR** (**annual percentage rate**), which is an estimate of the percentage you pay on your principal over the course of a year. The APR is not equal to the exact percentage you end up paying, because that exact percentage is affected by the frequency with which interest is compounded; the interest on most credit cards is compounded monthly, but there are exceptions. The **daily periodic rate** is the percentage of interest that you are charged each day—it's simply the annual interest rate divided by 365.

When you researched savings accounts, you might have found annual interest rates that ranged from less than 1 percent to as high as 6 percent. With credit cards, the range in interest rates is much wider. Typical annual interest rates on credit cards range from about 6 percent to 24 percent, with some even as high as 35 percent or more.

The APR Isn't Always What You Think It Is

Interest rates on credit cards are often variable, which means that they can change. Some credit cards have a default APR (also called a penalty APR), which is the rate the credit card company or bank will apply to your card if you are in default. **Default** is the failure to make the required payments on time or the failure to comply with other conditions of the credit card agreement. When one payment is missed or received past the due date, the credit card issuer will charge a late fee. If your payment is late by more than 60 days, they may also consider you to be in default and raise your interest rate. The higher interest rate will affect both current and future balances and will expire after 6 months as long as future payments are on time.

Sometimes interest rates on your credit card will vary even if you have been on time with every single one of your payments on every debt you've ever had, such as under the following circumstances:

- An introductory rate expires (after six months)
- The card has a variable interest rate rather than a fixed rate
- The card expires and a new credit card is issued

For example, imagine that you saw the following advertisement:

Now that you understand how interest rates work, this offer sounds pretty good. Too good to be true? It might be—first of all, that zero percent interest rate is only for balance transfers. In a **balance transfer**, you take part or all of a balance that you are already carrying on another credit card and transfer it to a new credit card. On this credit card, you will not have to pay interest on the amount of money you transfer to the new card, but you will still probably have to pay interest on any items you purchase with the new card. Also, although you can't tell from the advertisement, the zero percent interest offer is probably an introductory offer that lasts only a few months. After that, a much higher interest rate usually goes into effect for all purchases as well as for the remaining portion of the balance that you transferred.

How Credit Card Interest Is Calculated

When you make a purchase on a credit card, interest is not immediately charged on your purchase. Instead, most credit cards have a **grace period**, which is an amount of time during which no interest is charged. Usually you have a 20- or 25-day grace period before interest is charged on that amount.

After the initial grace period, the interest can be calculated in different ways. Recall the simple interest formula you learned earlier:

$$\text{Interest} = \text{Principal} \times \text{Rate} \times \text{Time}$$

With savings accounts, the principal is the amount deposited into your account, on which you earn interest. With credit, the principal is the amount borrowed on which you are *charged* interest. Earlier you learned that with savings accounts you earn compound interest—you don't just earn interest on the principal but on the total amount in the account, including previous interest earned. Similarly, with credit cards, you're not charged interest on the amount borrowed but on the remaining amount in the account—the balance. If you make payments to your account (and don't charge more items on your card), this balance will decrease, so you'll be charged less and less interest each billing period. But if you don't make regular payments, your balance will increase, since you are charged interest on both the amount you borrowed and on the previous interest charged.

If you have a credit card, you'll probably receive a credit card statement about once a month. Now, suppose that in the course of one month you made a few purchases or payments—maybe you bought something with your credit card, or made a payment on part of the balance, or transferred some of the balance to another credit card. So, on different days during the month, your total balance on the account is different.

Since the monthly balance varies, how does a credit card company calculate the interest charged to you? Different credit card companies have different methods, including average daily balance, previous balance, and adjusted balance:

- **Average daily balance:** With this method, the credit card issuer adds together your balance for each day of the billing cycle and then divides it by the number of days in the billing cycle.

  For example, let's say you have a credit card with a 10 percent APR and a 30-day billing cycle. For each day from January 1 through January 15, you made no purchases but carried over a $200.00 balance from the previous month, so for 15 days your balance was $200.00. Then on January 16, you made a $1,000.00 purchase, and so for the next 15 days your balance was $200.00 + $1,000.00 = $1,200.00. Your average daily balance for the month of January can be calculated using the following equation:

$$\frac{(\$200.00 \times 15) + (\$1{,}200.00 \times 15)}{30} = \frac{\$21{,}000.00}{30} = \$700.00$$

This average daily balance of $700.00 becomes the amount on which your interest is charged.

- **Previous balance:** With this method, interest is charged on the amount of your balance at the end of the previous billing period. Payments and new purchases made during the current billing period are not taken into account. For example, Marcella's second month's credit card statement was for the billing period of June 15 to July 14. Her bill, however, was not due until August 4. If she made a payment on August 2, that payment would not be taken into account when interest was charged for her *next* statement. Rather, she would still be charged interest on the entire balance as of July 14 ($468.41) on her next statement, which would be due on September 3.
- **Adjusted balance:** This method is similar to the previous balance method, except that payments received during the current billing period are subtracted from the previous balance. Therefore, using the previous example, if Marcella did make a payment on her previous balance on August 2 (during the current billing period), that amount would be deducted from her balance before interest is calculated for her current billing period.

However your credit card company chooses to calculate the balance on which interest is charged, that value is then plugged into the following formula:

$$\text{Balance} \times \text{Daily Periodic Rate} \times \text{Number of Days in a Billing Cycle} = \text{Interest}$$

That interest—which is often referred to as the finance charge on your credit card statement—is charged to your account and added to your monthly balance. Just like savings accounts, that interest is compounded. So, the following month, if you haven't paid your credit card in full, the interest charged will be added to your principal.

Other Fees

Some credit cards have a minimum finance charge, which means you'll be charged that minimum even if the calculated amount of your finance charge (interest) is less. For example, let's say you have a balance of $100.00 on a credit card with a 10 percent APR and a 30-day billing cycle. The daily periodic rate is 0.027 percent. If you plug these values into the interest formula, the finance charge would be:

$$\$100.00 \times 0.00027 \times 30 = \$0.81$$

But if the credit card's minimum finance charge is $1.00, you'll have to pay $1.00 instead of $0.81.

Some credit cards charge other fees in addition to interest, for example:

- **Annual fee: Charged to your account once a year (or sometimes billed monthly) simply for having the card**
- **Balance transfer fee: Charged when you transfer a balance from another credit card**
- **Late payment fee: Charged if your payment is received after the due date**
- **Over-the-credit-limit fee: Charged if you make purchases that exceed your credit limit**
- **Set-up fee: Charged when a new credit card account is opened**

All of this is to say that if you're not careful, fees and interest can add up quickly on your credit card!

Questions for Reflection

1. Why do you think the interest rates for credit cards are so much higher than the interest rates you might find for a savings account?
2. Of the different methods—previous balance, adjusted balance, and average daily balance—that credit card companies use to determine the balance on which interest is charged, which would you prefer as a credit card user? Why?

THE COST OF CREDIT

Continue to analyze Marcella's credit card debt and how much it will cost her to pay off her debt by answering the following questions:

1. Imagine that Marcella pays both the late fee and the minimum amount due by August 4.
    a. What will her balance be after she pays the minimum amount due?
    b. How much interest will be charged on that adjusted balance?
    c. What will be the total new balance including interest?
    d. What will be the minimum amount due on September 3?
2. Imagine that Marcella pays the minimum amount due by September 3.
    a. What will her balance be after she pays the minimum amount due?
    b. How much interest will be charged on that adjusted balance?
    c. What will be the total new balance including interest?
    d. What will be the minimum amount due on October 5?
3. Using the calculations you just did, make some predictions:
    a. If Marcella makes only the minimum payment each month, how long do you think it will take to cut her debt in half?
    b. If Marcella makes only the minimum payment each month, how long do you think it will take to lower the debt to $10.00?
    c. By the time she lowers the debt to $10.00 by making minimum payments, how much total interest do you think she will have paid?
    d. Let's say Marcella's minimum payment due was lowered to 2 percent of the total balance. How would that affect the length of time it takes to pay her debt? Why? How would it affect the total amount paid, including interest?

Create a Credit Card Payment Spreadsheet to check your predictions. Make sure to design the spreadsheet in such a way that you can enter different values for some variables, such as APR and minimum amount due, to see how changing each of these variables affects the total payments made as well as the time it would take to pay off the debt.

Marcella's debt was relatively low compared to the credit card debts that many Americans carry. After you check your predictions, take a few minutes to explore how much interest Marcella would have paid and how long it would have taken her to pay off her

debt if her initial balance was higher. What if she had charged $1,000 or even $10,000 on her credit card? How much interest would she then have paid if she only made minimum payments? Plug other amounts into your spreadsheet to see how an increase in the amount she borrowed would have affected her overall debt.

ADVANTAGES AND DISADVANTAGES OF USING CREDIT CARDS

When you watch part of the video *Secret History of the Credit Card* and hear people talk about their experiences, think about their motivations for using credit cards. What did they see as the benefits? Also, consider the problems that some of these people encountered. What, if anything, could they have done differently to avoid those problems?

Reflect on the video, Marcella's story, and your own knowledge of credit cards. Brainstorm a list of the advantages and disadvantages of using credit cards.

Keep this list in mind as you explore credit throughout this activity. In all likelihood you will use credit at some point in your life—not just credit cards, but perhaps student loans, a mortgage for a home, or an auto loan. At times, using credit will be an investment in your future and necessary for achieving a short- or long-term goal. By also keeping in mind the potential dangers of credit, you will be more likely to make smart decisions about how you use credit and how to manage the subsequent debt.

HOMEWORK 4.2

Reflect on what you've learned about the advantages and disadvantages of credit cards. Imagine that you found yourself in Marcella's situation tomorrow. What would you do? Would you apply for the credit card? Why or why not? Write a response in your Finance Journal.

Read **Are You Creditworthy?** and answer the **Questions for Reflection**.

Are You Creditworthy?

Credit card companies, banks, and other lenders, as you've learned, are businesses. When they give credit to consumers, they earn a profit from the interest that borrowers pay them. The more slowly a borrower pays off his debt, the more money the lender earns in interest. But what if the borrower doesn't pay off his debt at all? Then the lender could potentially lose a lot of money. In that sense, lenders take a risk each time they grant credit to a consumer. Because of that risk, lenders don't give credit to just anyone. Instead, they find out information about each potential borrower to try to determine the likelihood that the borrower will repay the loan.

WHO GIVES CREDIT?

Anyone who gives credit is called a **creditor** or a **lender**. Some of those people and companies might include:

- Credit card companies, such as Visa®, MasterCard®, and American Express®.
- Retail stores: Stores sometimes offer their own credit cards; the cards are usually accepted only at that store.
- Banks and credit unions: In addition to offering credit cards, banks give loans for specific purposes, such as buying a home or a car, or opening a small business.
- Small loan companies: Some companies give small loans, often to people who have trouble getting a loan from a bank. Because these companies are taking on high-risk consumers, they often charge high interest.
- Federal government: The U.S. Department of Education, for example, gives loans to college and graduate students as well as to parents of students in order to help pay for tuition.

The Three Cs of Credit

Imagine that you are considering lending a stranger a lot of money. What would you want to know about that person before deciding whether or not to lend the money? The **Three Cs of Credit** refers to three categories of information that lenders consider before deciding to lend someone money. The three Cs are character, capacity, and capital.

Character: Will you keep your promise to repay the debt? Creditors look for borrowers who are responsible and live up to agreements. Indicators of a person's character include a history of paying bills on time. Stability is also considered by creditors to be a measure of good character. For example, a person who has had five different jobs in one year might be considered unstable and therefore a risky person to lend money to.

Capacity: Are you able to repay the debt? Lenders want to make sure that you earn enough money to meet all of your expenses as well as the payments on the new debt.

Capital: Is the creditor protected if you fail to repay the debt? **Capital** is defined as a person's money, property, and other assets. More often with loans than credit cards, a borrower's capital can be collected by a lender if the debt is not paid back.

Some creditors might consider how other factors, such as general economic conditions, might affect your ability to repay the debt. For example, if the economy is slowing and unemployment is increasing, the creditor might try to determine how secure your particular job or industry is before agreeing to lend to you.

How Do Creditors Find Out Information About You?

Anyone who has ever used credit has a credit history, or a complete record of everything they have borrowed and repaid (or not repaid) on file at a credit bureau. A credit bureau is an organization that gathers, stores, and sells information about people's credit histories to interested creditors. This information about a person's credit history is summarized in a credit report.

A typical credit report will include the following information:

- **Personal identifying information:** This includes your name, address, Social Security number, and birth date.
- **Employment history**
- **Credit history and current debt:** This includes the dates that every credit account was opened, the current account balances and credit limits, and the payment history for each account. For example, a credit report might list the number of times a person was 30 days, 60 days, and 90 days late on payments. Sometimes, when a person is more than 90 days late on paying a debt, a collection agency will be notified to try to collect the person's debt. If a lender has notified a collection agency to collect on a person's debt, that information would appear on the person's credit report.
- **Public records:** If you've ever filed for bankruptcy or been convicted of a crime, these kinds of actions are on public record and may be included in your credit report.
- **Credit inquiries:** Each time a person applies for credit, the creditor will request to see the person's credit report. Each credit report includes the list of these requests made by creditors. If a creditor that is viewing your report sees that there are a large number of requests by other creditors to see your report, that information can be viewed negatively, because it could indicate that you are trying to borrow too much from too many lenders.

Your debt-to-income ratio is one indicator lenders might look at to determine your credit-worthiness and your capacity for repaying a loan. **Debt-to-income ratio** is a comparison of the amount of money you owe to the amount of money you earn. It's a good way to calculate how much of your income goes to paying off debt.

For example, let's say your gross income is $2,000 per month, and your monthly debt payments (such as mortgage expenses, car loans, and credit card payments) total $800. The ratio of your debt-to income would be

$$\frac{\$800}{\$2,000} = 0.40, \text{ or } 40 \text{ percent.}$$

Generally, a debt-to-income ratio that is less than 30 percent is considered excellent.

A debt-to-income ratio over 40 percent is considered high and may cause lenders to be cautious about offering you credit.

Sample credit reports are located on the **Ford PAS Web site.**

WHAT'S NOT IN YOUR CREDIT REPORT?

- Old information: Fortunately for people who've had trouble with their finances, negative credit information (such as late or delinquent payments) stays on your report for about seven years (which may still feel like a very long time, especially if you're waiting for your credit score to improve so you can get approved for an important loan). After that, it's as if the negative events never happened, and they don't affect your credit rating.
- Personal information that does not appear on most credit reports includes bank account balances, race, religion, driving records, and health conditions (although medical bills may show up as debts).

Credit Scores

Each person who has a credit report also has a credit score. This number helps lenders quantify the level of risk that they might be taking if they lend to a particular person. The most common scoring method is referred to as a FICO score, whose name comes from the company that developed the scoring method (Fair Isaac Corporation). The **FICO credit score** is a number between 300 and 850 that tells lenders how good a credit risk a person is. The higher the number, the better your credit history is, and the more likely that lenders will offer you more credit. Generally, a number above 750 is considered excellent. The lower your number, the more of a risk you are considered, and the less likely it is that a creditor will lend to you.

WHAT YOUR FICO SCORE MEANS

Higher than 750: Excellent credit risk

720–750: Very good credit risk

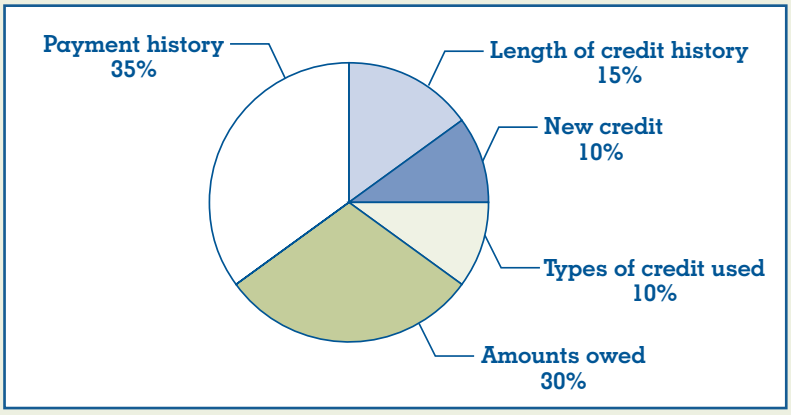
660–720: Acceptable credit risk

600–660: Uncertain risk

Less than 600: Risky

How the FICO Score Is Calculated

How is it calculated? The exact formula for calculating FICO scores is not public information, but the approximate breakdown is as follows:



- **Payment history:** Approximately 35 percent of your score is based on how many, if any, late payments you've made in the past, including whether any debts have been sent to bill collectors and whether you've ever declared bankruptcy.
- **Outstanding debt:** About 30 percent of the score is based on how much money you currently owe. Do you have any credit cards that are at their limits? The more cards you have at their limits, the lower your score will likely be.
- **Length of credit history:** Approximately 15 percent of the score is based on how long you've had credit. The longer you've had established credit, the better it is for your overall credit score. This is one example of where the scoring can get a little tricky. Having some credit and having paid it off in the past is good for your credit score. If you want to get a home loan, for example, and you've never had a credit card, your score may be lower than someone who has had credit cards. But it's important to have used credit wisely and paid it off.
- **New credit:** About 10 percent of the score is based on the number of inquiries on your report. Each time you apply for new credit, the lender will make an inquiry to see your report, so if you've applied for a lot of credit cards or loans, you'll have a lot of inquiries. This is another one of the tricky parts of the scoring system. Creditors do want you to have had credit in the past and managed it well. However, applications for lots of credit, especially within a short period of time, could indicate to them that you are in financial trouble.
- **Types of credit used:** Approximately 10 percent of your score is determined by what kind of credit you have. The people with the highest credit scores often have both revolving credit, such as credit cards, and installment credit, such as mortgages and loans. According to the FICO formula, having managed different types of credit shows that a person is responsible, can handle money, and is therefore a better credit risk.

Questions for Reflection

1. Do you think the Three Cs are good criteria for deciding whether or not to grant a person credit? Why or why not?
2. Are there any other Cs you might add to the list? Explain.

TO LEND OR NOT TO LEND?

Have you ever lent anything to anybody? Did you have any reservations about lending it? Why? Why did you decide to lend it in the end? What did you know about your "borrower" that made you decide to lend the item or money?

Think about the risks that lenders, such as banks and finance companies, take when they lend money to consumers. Why do they take those risks?

You are going to take on the role of a loan officer for a bank. You'll work with a Credit Candidate team to decide the creditworthiness of an individual who is applying for a $10,000 home improvement loan. You'll receive one of the **Credit Candidate Profiles** that includes information that you would find in a person's credit report as well as other information that you would find out from the person's loan application or an interview.

A home improvement loan is a loan that must be used for home repairs or home improvement projects. The home itself is usually used as collateral for the loan.

As you read the profile, consider which information would affect whether or not you would grant the loan. Discuss the following questions:

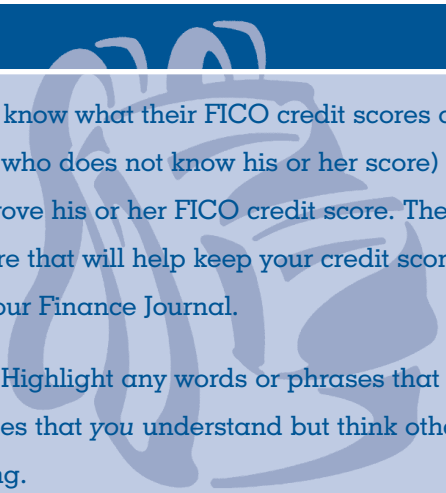
1. What information in the profile would lead you to grant the candidate credit? Why? (Which of the Three Cs—character, capital, or capacity—does this information address?)
2. What information in the profile would lead you to not grant the candidate credit? Why? (Which of the Three Cs does this information address?)
3. What information in the profile would have no effect on whether you would grant this person credit?
4. On a scale from 0 to 5, with 5 indicating an excellent candidate for credit and 0 indicating a terrible candidate for credit, how would you rate this candidate?

Take notes on how your candidate meets the criteria for each of the Three Cs on **Credit Candidate Notes**.

MAKE LENDING DECISIONS

You'll form new Lender teams. Each new team should have at least one member from each of the Credit Candidate teams that looked at candidates for home improvement loans. Share with your new team your assessment of the credit candidate that you analyzed, and listen to your team members' analyses of their candidates. Then discuss how creditworthy each candidate is. Who, out of the four candidates, would you lend to and why? As a team, put the applicants in order—from most desirable candidate for credit to least desirable—and prepare to explain your team's rationale. Remember the Three Cs as you choose whom to lend to.

HOMEWORK 4.3



Ask a few adult friends or family members if they know what their FICO credit scores are. Ask one adult friend or family member (even one who does not know his or her score) to name one action that he or she thinks would improve his or her FICO credit score. Then think of one specific action you can do in the future that will help keep your credit score high. Write down a description of that action in your Finance Journal.

Read the **Sample Credit Card Offer** you receive. Highlight any words or phrases that you don't understand as well as words and phrases that *you* understand but think other people your age might have trouble understanding.

DID YOU KNOW?

Protect Yourself from Identity Theft

Shawn got a phone call from a woman who said she was from an agency that generates credit reports, and she asked him whether he would like to order his free credit report and score. Having just learned how important it is to know your credit rating, Shawn enthusiastically agreed to order his credit report. He just needed to give the woman some information, including his Social Security number . . .

Shawn never received his credit report. But he did get a letter from a bank that said he must make payments on the $25,000 loan he just took out (which Shawn, strangely, knew nothing about). Several weeks later he received a call from a collection agency saying that he had failed to make payments on another loan.

Shawn was a victim of **identity theft**, which is when someone steals your name, Social Security number, credit card number, or other personal information. Once someone steals your identity, the thief might apply for credit card accounts or loans in your name. He or she might open a bank account in your name and transfer money from your real bank accounts. Even worse, the thief could commit crimes in your name. Victims of identity theft may not only find themselves in a large amount of debt but also have their names and reputations ruined and get turned down for jobs and loans. Victims of identity theft can even be associated with crimes that they didn't commit.

Once victims of identity theft report the crime, they are usually relieved of responsibility for the unfair debts, but the process of reporting and proving you were a victim can take a long time and be very frustrating and expensive. Here are some tips for avoiding becoming a victim in the first place.

- Never give out your credit card or Social Security number on the phone unless you were the one who initiated the call to discuss your account with what you know is a legitimate company.
- Keep account statements and Social Security cards in a safe place.
- When you throw away financial documents, including credit card statements, shred the papers so thieves can't find your information by going through garbage or recycling bags.
- Report a lost or stolen card immediately to your credit card company.

THE LANGUAGE OF CREDIT CARD OFFERS

While credit cards can be dangerous if used irresponsibly, many financial experts encourage adults to have at least one credit card, even if it's just for emergencies. If you ever apply for an auto or a home loan and you've never had a credit card, it might be difficult to get the loan because lenders don't know if you're able to pay off a debt. As long as you are responsible about managing debt, having a credit card has many advantages.

But different credit cards have different advantages and disadvantages. Each credit card has its own terms and restrictions. Figuring out what the terms and restrictions are is not always easy, especially when you consider how tiny the writing can be on credit card offers! Imagine that you are going to help other teenagers figure out how to choose the right credit card. Begin by helping them understand the language of one credit card offer. Work with a partner to do the following:

- Review the terms or phrases that you highlighted in the **Sample Credit Card Offer**. Use the resources on the **Ford PAS Web site** to research the terms you don't understand.

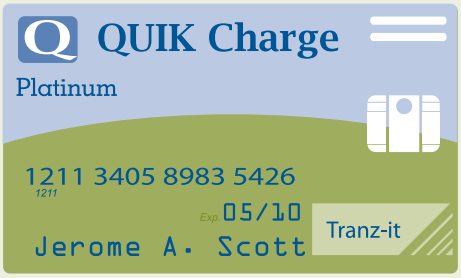
- "Translate" the credit card offer so that a friend of yours could understand the fine print.

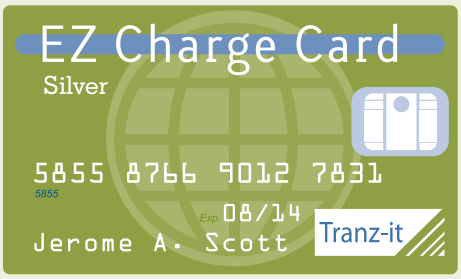
HOMEWORK 4.4

Read **Which Credit Card Would You Prefer?** and answer the **Questions for Reflection**.

Which Credit Card Would You Prefer?

Look closely at the terms of the two different credit card offers. One card may be better in some ways, but not in others. Look at all the terms and decide which card you would you prefer. Why?





Annual Percentage Rate (APR) for Purchases	0.00% introductory rate for the first 6 months of membership; thereafter 13.99%	3.90% introductory rate for the first 6 months of membership; thereafter 13.99%
APR for Balance Transfers	Balance Transfers: 0.00% until the day of the last billing period ending 6 months after inception; thereafter the standard APR of 13.99% will apply.	Balance Transfers: 3.90% for the first 9 months of membership; then 12.99%
APR for Cash Advances	21.99%	18.99%
Default APR	19.99% or 24.99%**	25.99%**
Grace Period	25 days	20 days
Method of Computing the Balance for Charging Interest	Average Daily Balance	Adjusted Balance
Late Fees	$25 on balances up to $1,000 $45 on balances over $1,000	$25 on balances up to $1,000 $45 on balances over $1,000
Over-the-Limit Fee	$25	$35
Balance Transfer Fee	None	3.00% of balance transfer; $5 minimum, $40 maximum
Line of Credit	$10,000	$14,900
Annual Fee	$25	none
Minimum Finance Charge	$0.50	$1.00

Miscellaneous	**Default Rate: If you fail to make a required payment by 60 days after the due date or if you exceed your account credit limit for 60 days, your purchase APR will be increased to 19.99%. If you fail twice or exceed your credit limit twice, your purchase APR and cash advance APR will be increased to 24.99%. These rate increases will expire after six months if no further violations occur. See Card Member Agreement for details.	**The highest rate may be charged if the cardholder is 60 days late making a payment on this account. After six months of making payments on time the rates will return to their original values.

Questions for Reflection

1. Which credit card would you prefer to have? Why?
2. Which variables (such as standard APR or credit limit) were most important in influencing your decision? Why?

FINANCIAL LIVING: CHOOSING A CREDIT CARD OFFER

Some credit cards offer a fixed low interest rate for everyone but have a minimum finance charge each month. Some credit cards offer an initial zero percent interest rate on balance transfers but charge an annual fee. Which factors would be most important to you when choosing a credit card? Which should be most important to your Financial Living character?

Work with your Financial Living team to make a list of some of the different factors that you might look at when choosing a credit card. Create a blank table of those factors so you can compare how different credit cards measure up in each category. (This will be similar to the table you created when you compared different savings accounts.)

Use the resources on the **Ford PAS Web site** to find at least three credit card offers that seem like decent possibilities for your character. Complete your table using the information given in each credit card offer.

Once you've completed the table, take a look at it with your team. Are there any factors that take priority over everything else? For example, do you think the standard APR is most important? Is it most important that there is an initial zero percent balance transfer offer? Or that there is no annual fee?

Discuss with your team which characteristics of each credit card option should take priority. Then decide as a team which credit card sounds best for your character. Choose one credit card for your character to apply for, and prepare to share your rationale for this decision.

HOMEWORK 4.5

Read **Credit and Debt Report Guidelines.**

Credit and Debt Report Guidelines

Write a report about how your Financial Living character will use credit and manage his or her debt. This report should include your character's credit card debt management plan as well as your character's plan for purchasing and paying for a vehicle. Remember to use graphs or tables to help explain your plans.

Include the following information in your Credit and Debt Report:

1. Credit Card Analysis: Which credit card did you choose for your character? Why? Which criteria were most important to you?
2. Credit Card Sample Statement: How much debt does your character have on the credit card? Create a sample credit card statement that shows how much interest your character would be charged during the first month and what his or her minimum amount due would be.
3. Credit Card Payment Plan: If your character only made minimum payments each month, how long would it take him or her to pay down the credit card? Include a graph or table that shows how the debt would be reduced by making minimum payments. Describe how much your character will pay per month in order to efficiently but realistically reduce the credit card debt. Explain your rationale for this decision.
4. Budget Adjustment for Credit Card Payments: Explain how you will alter your character's budget to allow for that amount of credit card payment each month.
5. Vehicle Purchase: Describe what vehicle you chose for your character to purchase and your rationale—including financial and other factors—for this decision.
6. Auto Loan Payment Plan: Are you financing the vehicle? What did you estimate for the monthly costs of owning this vehicle, including auto loan payments, insurance, gas, maintenance, and repairs? Explain how your character will incorporate monthly loan payments and other costs into his or her budget.
7. Overall Debt Analysis: Describe your character's approach to managing credit card debt and auto loan payments, and how this approach affects your character's savings plan. For example, will your character try to pay off debt as soon as possible? Will your character emphasize building as much savings as possible and try to pay only the minimum amount to manage debt? What effect will debt have on your character's achievement of his or her savings goal? For example, will your character need more time to achieve his or her goal? Will your character have to modify the goal?

FINANCIAL LIVING: MANAGING CREDIT CARD DEBT

Once you've chosen a credit card offer for your Financial Living character to apply for, assume that your character was approved and that this is now the credit card that your character has. Read your Financial Living team's **Credit Card Chance and Consequence Card** to find out how much debt your character has on this credit card. Next, you'll work with your team to figure out how to manage your character's new debt.

Use the information from the credit card offer that you chose for your character and the information from your Chance and Consequence Card to do the following:

1. Figure out what the minimum amount due will be for your character's first month's credit card statement. Unless specified on your chance card, assume that you're within the grace period, which means you haven't been charged interest yet. If the credit card offer specified how the minimum amount due is determined, use that information; otherwise assume the minimum amount due is 2 percent of the total balance.
2. Next, assume that your character pays the minimum amount due on his or her first statement. Figure out what the next statement's balance will be and how much interest your character will be charged. To do this, you need to take into account the current APR and then figure out what the daily periodic rate is on your credit card.
3. Create a Debt Payment Spreadsheet that will track how long it will take your character to pay off his or her credit card debt and how much total interest he or she will pay. Start by having your character pay just the minimum amount due each month. Then try plugging different payment amounts into your spreadsheet.

FINANCIAL LIVING: ADJUST BUDGET

Return to your Budget Spreadsheet. Consider how much your character can realistically contribute toward his or her credit card debt, given other costs. Then create a new Adjusted Budget column or worksheet and adjust your budget accordingly.

HOMEWORK 4.6

Begin writing your Credit and Debt Report. Use the **Credit and Debt Report Guidelines** and the **Credit and Debt Report Assessment** to guide your work.

BUYING A VEHICLE: GENERAL COSTS

Buying a vehicle is one of the biggest financial decisions people can make, and the buying process involves a lot of choices. The first big choice you need to make is whether or not it makes sense to buy a vehicle at all right now. What are the reasons a person might buy a vehicle? And what are some reasons why a person might hold off for a while?

Consider the following advertisement:

2009 XAC Croozer BX 4-Door Sedan

Air Conditioning
Power Door Locks
Power Steering
Tilt Wheel
Dual Front Air Bags
Anti-Lock Brakes
Power Windows
Cruise Control
Multi CD Player
Front & Rear Side Air Bags
Only 40,000 Miles

Original Owner, Kept in Garage, Service Records Available

Imagine that you answered this ad and bought this car. Imagine that you made a down payment of $5,000 and took out a $12,000 loan. Estimate what you think your monthly costs would be if you bought this car, taking into account all associated costs that you can think of.

Now compare your estimates with the actual data you are given about the average costs of owning a vehicle. Are you surprised? Why or why not? What do you think are ways that the cost of owning a vehicle can be reduced?

As you consider whether a vehicle fits into your budget, make sure that you take into account all of the associated costs—not just the cost of the vehicle itself.

FINANCING A VEHICLE: THE COST OF AUTO LOANS

Unless you're buying an inexpensive vehicle or you've saved up a lot of money, you will probably take out some sort of loan when you buy a vehicle. Imagine that you're going to buy that $17,000 vehicle, and you can make a $5,000 down payment and take out a $12,000 loan. Different financing plans will offer you different interest rates, different monthly payments, and different lengths for the loan. Consider these different financing options. Which would you prefer? Why?

Option 1: 24 months at 6% rate

Option 2: 48 months at 7% rate

Option 3: 60 months at 8% rate

Go to the **Ford PAS Web site** to access an online payment calculator and calculate the following amounts for each financing option:

1. The monthly payment
2. The total amount you will pay at the end of the term, assuming you pay the exact amount each month and are always on time with your payments

Once you've done the calculations, consider whether you would still stick with the financing option you originally chose. Discuss the following questions:

When choosing a loan, which factor would be most important to you?

- The lowest interest rate
- The lowest monthly payment
- The shortest time you'll spend paying off the loan
- The lowest total cost of the whole payment plan

Are there different situations you can think of where a person might choose one of these factors over another?

HOMEWORK 4.7

Read **Choosing a Vehicle: Decisions, Decisions, Decisions** and answer the **Questions for Reflection**.

Continue to work on your Credit and Debt Report.

Choosing a Vehicle: Decisions, Decisions, Decisions

Should I get a big vehicle or a small one? An automatic or a manual transmission? Two door or four door? How important is fuel efficiency? What kind of sound system do I want? What color vehicle do I want?

Once you've decided that you want a vehicle, you will find that you have lots of options and many decisions to make. Before you can make these specific decisions, you need to figure out what your budget is. How much can you afford to spend per month on both auto loan payments and associated costs (such as gas, maintenance, insurance, and repairs)? Then, a big decision you'll need to make right away is whether you are going to buy or lease a vehicle.

When you buy a vehicle, you become the sole owner. A **lease**, on the other hand, is an agreement that allows you to use the vehicle for a certain amount of time, such as two or three years. With leasing, instead of owning the vehicle, you rent the vehicle for a monthly fee.

Leasing and buying a vehicle each have different advantages and different financial implications.

Buying a New Vehicle

Many people purchase new vehicles from an automobile dealership, which is a business that sells vehicles directly to consumers based on a contract the dealership has with the manufacturer. Dealers purchase vehicles directly from the manufacturer; the **invoice price** is the price that the manufacturer charges the dealers. The **Manufacturer's Suggested Retail Price (MSRP)** is the price the manufacturer recommends the dealer charge the customer for the vehicle, and it is usually slightly higher than the invoice price. However, many prices are not set in stone and are instead decided through negotiations between the customer and the dealer.

A vehicle is a major purchase. Therefore, many customers finance their vehicle rather than pay for it all at once. Some customers use direct lending, which means they obtain a loan directly from a finance company, such as a bank or a credit union. More common, however, is dealer-arranged financing, in which the dealership works with the lender to secure a loan for the customer. Then the dealer and the customer form a contract that generally calls for the buyer to make an initial down payment and then agree to pay the remaining amount, plus an agreed-upon finance charge, over a set period of time.

There are advantages to buying a vehicle as opposed to leasing one. Once your loan is paid in full, you own the vehicle, which will hopefully be useful to you for a very long time. When you buy a vehicle from a dealer you usually get a **warranty**, which is a written statement from the manufacturer that guarantees the vehicle's qualities and performance for a certain period of time. If something turns out to be wrong with the vehicle

during that time, the manufacturer is responsible for paying for the repair. In addition to being useful and enjoyable, a vehicle that you own can be a financial asset. If you were to ever suffer a financial hardship, you could always sell this asset for cash.

Leasing a Vehicle

Leasing, however, has its own set of advantages. When you lease a vehicle, your monthly payments are usually lower than the amount you would pay for financing if you bought that same vehicle new. Since most leased vehicles are new, you probably won't have to worry about making expensive repairs, and your vehicle will likely be a reliable source of transportation. After your lease term expires, you can choose to purchase the vehicle. You can also choose to lease a different vehicle, which means you always get to have a new one every few years (without having to pay the its full cost). Plus, you can try out different vehicle models each time you lease.

However, since the vehicle you lease is not yours, you have to agree to certain requirements made by the dealer. For example, leases often have a mileage restriction, and if you drive more miles than stipulated in the lease, you have to pay an extra fee. If you want to break the lease before the term is up, you will also have to pay extra fees.

A Third Option: Buying a Used Vehicle

Because vehicles can be very expensive, many people choose a third option—purchasing a used vehicle. Buying a used vehicle can be risky. You can't be certain of how well the previous owner took care of the vehicle, and you usually don't have a warranty to protect you. The major advantage of buying a used vehicle, however, is that it is usually less expensive than a new vehicle. This is because most vehicles depreciate over time.

Depreciation

Depreciation is the decline in any product's value over time. Understanding depreciation will help inform your decisions about how to acquire a vehicle, whether you're buying new, leasing, or buying used. As a vehicle ages and the number of miles driven increases, the normal wear and tear on the vehicle will usually cause some physical deterioration, which will make it worth less money. Obviously, a brand new vehicle is going to be more valuable—and thus more expensive—than a rusty vehicle with bald tires and 200,000 miles on it. The longer you have your vehicle, the less money it will be worth if you ever decide to sell it, and the less reliable it will likely be (and less shiny and pristine, too!) as the years go by.

Vehicles depreciate at different rates, depending on how well they are made and taken care of. A vehicle begins to depreciate the minute it is driven off the dealer's lot and will usually depreciate the most during the first year of ownership. After that initial drop in value, vehicles continue to depreciate, although the rate of

depreciation varies. Some of the factors that affect how much a particular vehicle depreciates over time include the following:

- **Condition of the vehicle:** How well the vehicle has been taken care of and whether there's been any damage that affects its value.
- **Mileage:** The more the vehicle is used, the faster it deteriorates and declines in reliability and thus value.
- **Demand:** Vehicles that lots of customers want will retain their value longer and depreciate more slowly than vehicles that are in less demand. This demand is often a result of people's perception about the vehicle or its manufacturer. For example, demand will be lower for the vehicles manufactured by a company that has had bad press about problems with its safety features, which could result in faster depreciation. Certain models of vehicles may become fashionable and maintain their popularity, and thus depreciate more slowly.

Although different vehicles depreciate at different rates, a vehicle that has not had any major damage will on average depreciate approximately as follows:

First Year:	30%
Second Year:	25%
Third Year:	20%
Fourth Year:	15%
Fifth Year:	10%

If you bought a brand new vehicle for $20,000, here's how it might depreciate over five years.

Years Since Purchase	Depreciation	Current Value
0	0	$20,000
1	30% of $20,000 = 0.30 × $20,000 = $6,000	$20,000 − $6,000 = $14,000
2	25% of $14,000 = 0.25 × $14,000 = $3,500	$14,000 − $3,500 = $10,500
3	20% of $10,500 = 0.20 × $10,500 = $2,100	$10,500 − $2,100 = $8,400
4	15% of $8,400 = 0.15 × $8,400 = $1,260	$8,400 − $1,260 = $7,140
5	10% of $7,140 = 0.10 × $7,140 = $714	$7,140 − $714 = $6,426

WHAT'S THE BLUE BOOK® VALUE OF YOUR VEHICLE?

There are many ways to determine the value of a particular vehicle and how much it has depreciated. One helpful resource is Kelley Blue Book, a company that researches and estimates the value of vehicles based on many factors, including the make, model, year, mileage, and stated condition of the vehicle. The company has become so famous that the term "**Blue Book® value**" (of a vehicle) is now synonymous with the market value of a car. Kelley Blue Book publishes a consumer guide each year. It also has a Web site, which you can search through to find the suggested retail value of any vehicle.

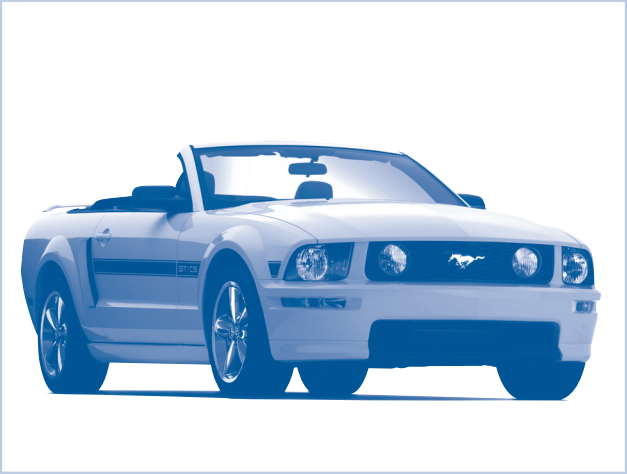
DO ALL VEHICLES DEPRECIATE?

Some people buy classic or vintage vehicles, which are old vehicles that are considered collector's items. If these vehicles are kept in excellent condition, they can actually **appreciate**, or increase in value, instead of depreciating.

For example, the Ford Mustang was first introduced to the public at the World's Fair in 1964 and immediately became one of the most popular car models in the United States. Over one million Mustangs were sold in the car's first 18 months on the market. The Mustang quickly became the car of choice for many Americans, especially teenagers, as its sleek, compact style was in stark contrast with the vehicles of their parents' generation. In 2005, because of the Mustang's enduring popularity, Ford began manufacturing "retro Mustangs," which looked very similar to the originals.

But the original Mustang remains an icon, making it a popular and valuable model with collectors—sometimes even more valuable than brand new Mustangs. The same car that sold for just over $2,000 in 1965 might be restored by a collector and sold for $40,000 or more. Compare that to brand new Mustangs, which generally cost around $24,000. Now that's appreciation!

1964 Mustang Convertible



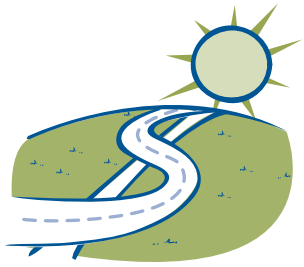
2008 Mustang GT California Special

From the collections of Ford Motor Company.

Questions for Reflection

1. Use the average depreciation estimates to calculate the value of a brand new $18,000 vehicle in one, two, three, four, and five years.
2. Can you think of other products besides vehicles that might depreciate over time?
3. If you were going to buy a vehicle today, would you prefer a new, used, or leased one? Why?

FINANCIAL LIVING: PLANNING A MAJOR PURCHASE



Read Part 4: Planning a Major Purchase from your **Financial Living Character Packet**. Discuss the following questions with your Financial Living team:

1. Does your Financial Living character need to buy a vehicle now? Why or why not?
2. If you decide that your character will buy a vehicle, what is he or she looking for in a vehicle? How will the vehicle be used? What does that tell you about what features in the vehicle are most important?
3. Estimate the amount of money your character can pay as a down payment right now.
4. Revisit your character's current budget. Estimate the amount of money per month your character will be able to commit to auto loan payments and associated costs (gas, insurance, maintenance, and so on).
5. Given your character's financial constraints as well as his or her short- and long-term financial goals, what do you estimate is your character's price range for a vehicle? (Make sure you keep in mind the associated costs when you identify the price range.)

FINANCIAL LIVING: CHOOSE VEHICLE OPTIONS

Use the resources on the **Ford PAS Web site** to research and choose two vehicles that meet the criteria you decided on. These resources will help you search for both used and new vehicles.

Once you choose two options for your Financial Living character, use the Web resources to determine the Kelley Blue Book® value of each. This amount is an estimate of prices you can expect from an auto dealer.

Print out the "specs," or specifications, for each of the two vehicles you are considering. The specs should include a picture of each vehicle; a description of the year, make, model, and features (such as whether it has anti-lock brakes, air conditioning, satellite radio, and so on); and the Blue Book® values of each vehicle. You'll find several different price estimates of your vehicle. For new vehicles, make sure you find out the invoice price and the new vehicle Blue Book® value. For used vehicles, make sure you find out the trade-in value and the suggested retail value. For explanations of these prices, read **What's the Real Price of the Vehicle?**

WHAT'S THE REAL PRICE OF THE VEHICLE?

When you research the price of vehicles, you may find several different prices for the same exact vehicle. The resources on the **Ford PAS Web site** provide different types of prices for vehicles. For new vehicles, you can view the following:

- **The invoice price:** The price the manufacturer charges the dealers
- **The manufacturer's suggested retail price (MSRP):** The price that the manufacturer recommends the dealer charge customers
- **The new car Blue Book® value:** An estimate of what people are really paying for this vehicle; the number is based on actual sales throughout the United States

For used vehicles, you can obtain the following values:

- **The trade-in value:** The price a person can expect to get from a dealer for the vehicle
- **Private party value:** The price a buyer can expect to pay when buying the vehicle from an individual
- **Suggested retail value:** An estimate of dealers' asking prices; this is often the starting point for negotiation between a customer and a dealer

HOMEWORK 4.8

Continue to work on your Credit and Debt Report.

THE NEGOTIATING PROCESS

When you go to a dealership to purchase a vehicle, you won't know beforehand exactly what price you're going to pay for it and what your financing plan will be. If you've done your research, you'll know what the suggested retail price is for the vehicle, so you'll have an idea of how much you can expect to spend. But the exact price is usually decided by negotiations between the customer and the dealer.

Negotiations are discussions between two or more parties in which each party has competing goals and interests. At the end of a successful negotiation, the parties will have come to an agreement about the issue in question. A "win-win" negotiation is when the parties find a solution that is acceptable to everyone, and each party leaves with a feeling that at least in some way, they've won.

Imagine that you are about to walk into a dealership after having done the research you just did on vehicles that you might want to buy. What might be your goal? What would make you feel like you've "won" at the end of the negotiation? Consider what the dealer's goal might be. What are his or her interests in the negotiation? What might the dealer consider a "win"?

LET'S MAKE A DEAL: NEGOTIATING A SALE

You're going to get an opportunity to practice negotiating as you participate in a vehicle-shopping simulation. Read **Instructions for Let's Make a Deal** on pages 133–135 to understand how this will work.

SHARE NEGOTIATION RESULTS

After you've completed the simulation, share the results of your team's negotiations. Which buyer negotiated the best deal? Which dealer negotiated the best deal? Who, if anyone, achieved a win-win negotiation?

HOMEWORK 4.9

Reflect on your experience as an auto dealer. In your Finance Journal, write a memo to your boss describing the sales work you did and the strategies you used to help your dealership. Tell your boss whether you think you succeeded at achieving your goals, and why. Explain what, if anything, you might do differently during the next sale to better achieve the company's goals.

Complete the **Negotiation Self-Assessment**.

Continue to work on your Credit and Debt Report.

Instructions for Let's Make a Deal

You'll engage in this simulation twice—once as a buyer (as your Financial Living character) and once as an auto dealer trying to sell the character a vehicle.

- **All dealers will have the same vehicles in stock. Each dealer will have the specifications for each vehicle that the buyers are considering.**
- **Dealers can set whatever price they want for each vehicle. However, all the prices are negotiable between buyers and dealers.**

In each simulation, there will be two rounds:

Round 1, Preliminary Shopping and Negotiations: During this round, buyers will visit as many dealerships as they want and try to negotiate a price for a vehicle that they want their Financial Living character to buy.

Round 2, Seal the Deal: After each team regroups and discusses the offers that were made, buyers return to the dealership of their choosing to finalize a vehicle sale. The deal should include an agreement on the price as well as on the amount of the down payment.

Instructions for Auto Buyers

Goal

This will be your only opportunity to purchase a vehicle for your Financial Living character. Your goal is to buy a good vehicle that your character can afford for as low a price as you can negotiate.

Things to Consider

Each dealership will have the vehicles you researched in stock, as well as ones that other Financial Living teams researched. You may shop for any vehicle at any dealership. However, it is not recommended that you buy a vehicle that you did not research, because you won't know how the price recommended by the dealer measures up to the Kelley Blue Book® value. But it's your choice. Also, keep in mind that you will need to work this purchase into your character's financial plan, so try to stick with the vehicle budget that you chose for your character.

If you've chosen to buy a new vehicle, keep in mind its Blue Book value. If you've chosen a used vehicle, keep in mind the Blue Book suggested retail value. These are estimates of what other consumers are paying dealerships for the same vehicle.

You should also keep in mind that the dealer has purchased each vehicle either from the manufacturer or from the previous owner. The invoice price will give you an idea of how much the dealer has paid the manufacturer for a new vehicle, and the trade-in value will give you an idea of how much the dealer paid the

previous owner for a used vehicle. When negotiating the price you will pay, remember that it will be difficult to get the dealer to go below the invoice price or the trade-in value, because that would mean the dealership would lose money on the sale.

During Round 1

As you shop during Round 1, you can divide up your team however you choose. You might want to send one team member to each dealership to check out prices and begin negotiations, or you can negotiate together as a team.

After Round 1

Regroup as a team and share the different offers made by dealers. Decide as a team which offer, if any, you want to accept.

During Round 2

Travel as a team to the dealership of your choice and try to seal the deal. Finalize a price for the vehicle and agree on how large a down payment you will make (unless your character can afford to pay the entire price at once). It will be in your character's best interest to make a down payment of at least 20 percent of the total vehicle price (assuming he or she can afford to do so, of course), as this will save the character money on loan payments later.

Before You Begin . . .

Before you begin the simulation, meet with your team and discuss your goals for the negotiations and the strategies you will use to achieve your goals. Decide whether you are going to work as individuals during Round 1, in pairs, or as a team. For each vehicle for which you're shopping, choose a starting offer to begin your negotiations.

Instructions for Auto Dealers

Goal

Your ultimate goal is to help make your dealership successful. You want to sell a vehicle, but only if it is a good deal for the dealership. You want to make a profit on whatever sale you make, but you also want to promote an image of being an honest and reliable dealership that will continue to attract customers to your business instead of the competition.

Things to Consider

You have the specifications and the Kelley Blue Book suggested retail value for each new and used vehicle. The invoice price gives you an estimate of the price you paid the manufacturer for each new vehicle, and the trade-in value gives you an estimate of how much you paid the previous owner for each used vehicle.

During Round 1

You can choose to offer any price for any vehicle in your store. However, if you sell a new vehicle for less than the invoice price or a used vehicle for less than the trade-in value, your dealership will likely lose money on that sale. Keep this in mind as you're negotiating prices with customers.

After Round 1

Regroup with your auto-dealer team and discuss which offers you want to accept from the customers and whether you want to target a particular customer to try to persuade him or her to buy a vehicle from you.

During Round 2

The auto-buying teams will return to try to seal a deal. You should assume that these customers all have excellent credit, and if you agree on a price for the vehicle, you should offer the customer an auto loan. The deal will include finalizing the price of a vehicle as well as the amount of a down payment.

Before You Begin . . .

Before you begin the simulation, meet with your team and discuss your goals for the negotiations and the strategies you will use to achieve your goals. Decide whether you are going to work during Round 1 as individuals, in pairs, or as a team.

FINANCIAL LIVING: MANAGING DEBT

Look at your **Auto Loan Chance and Consequence Card** and find out the interest rate and terms for your Financial Living character's auto loan. Use the online loan calculator on the **Ford PAS Web site** to figure out the amount of your character's monthly auto loan payments.

Return to your character's Budget Spreadsheet, and decide how you will incorporate these payments into your character's monthly budget. Consider the following choices:

- Will you cut back on your character's monthly savings?
- Should you reduce the credit card payments your character makes each month?
- Can your character cut back on other expenses?
- Do you think it's more important to pay off all the debt as soon as possible and hold off on saving? Or should you try to manage debt responsibly while continuing to put money into savings?

Modify your character's Budget Spreadsheet to reflect these changes.

HOMEWORK 4.10

Continue to work on your Credit and Debt Report.

REVISIT CREDIT AND DEBT PRECONCEPTIONS

Revisit the pretest you took about credit and debt. Have your knowledge and opinions about credit changed at all? What do you think are the most important lessons you have learned about how to use credit responsibly and manage debt wisely? What tips would you give to other teenagers about credit?

HOMEWORK 4.11

In your Finance Journal, write down the tips you would give to other teenagers about how to use credit wisely and manage debt.

Complete your Credit and Debt Report.

EXTENSION

4.1

Research what rights you currently have as a credit card consumer. Consider what additional rights you think consumers should have. Write a Credit Consumer Bill of Rights.

ACTIVITY 5:
Risk and Reward

INTRODUCTION

How much of a risk-taker are you? What is the stock market, and is it smart to put your money in it? What's the best way to invest your money for the long term? In this activity, you'll learn about different ways to invest money, such as stocks, bonds, and mutual funds. You'll weigh the risk of losing money against the potential reward of turning your money into a lot more money. You'll consider why some people take more risks with their money than other people, and you'll explore strategies for minimizing risk if you do choose to invest. Finally, you'll develop a long-term investing plan for your Financial Living character.

Learning Goals

- Analyze the relationship between risk and reward to identify the incentives and opportunity costs of investing.
- Describe the characteristics of several investments, including stocks, bonds, mutual funds, and real estate.
- Analyze data of a stock's past performance to assess its risk as an investment.
- Describe, compare, and make decisions about various investments based on their risk and reward.

FOR YOUR GLOSSARY

Blue-chip stocks
Bond
Cyclical stocks
Defensive stocks
Diversification
Dividends
Dollar-cost averaging
Growth stock
Income stock
Initial public offering (IPO)
Investment
Mutual funds
Penny stocks
Portfolio
Return on investment (ROI)
Savings bond
Share
Socially responsible fund
Standard & Poor's 500 Index (S&P 500)
Stock
Stock exchange
Stock market
Volatility

RISKS AND REWARDS

In finance terms, an **investment** is the use of money for the purpose of making more money. Earlier you learned about the importance of savings, and you investigated different types of savings accounts offered by banks. These savings accounts are examples of safe investments—with an interest-bearing account, your money will gradually grow. It's safe, or low-risk, because banks are insured by the FDIC, which means that you won't lose the money you put in (at least up to $100,000), no matter what happens to the bank. As you learned from researching bank accounts, savings accounts tend to offer fairly low interest rates, with most between 2 and 4 percent and very few as high as 5 or 6 percent. So your money does grow, but pretty slowly. With inflation averaging approximately 3 percent a year, some savings accounts earn barely enough interest for you to keep up with inflation.

Return on investment (ROI), or what you earn on an investment, is often expressed as an annual rate of return. So if you invest $100 and the annual ROI is 10 percent, you would have earned an additional 10 percent on your original investment after one year, or $10 in this case. You can also have a negative return—if your investment has a –10 percent ROI, you would have lost 10 percent of your original investment, or $10 in this case.

Other types of investments, such as stocks or bonds, are higher risk. This means that you have the potential to earn a lot more money than you can earn in a savings account. But you also have the potential to earn less, or even to lose money.

What factors do you think affect whether a person chooses a risky investment over a safer one? What degree of risk do you think you would take as an investor? Explore your ideas about risk by considering the following scenario:

Imagine that you have $1,000 to invest today. You can put your $1,000 into one of two types of investment.

1. With the first investment, you are guaranteed that you will get a 4 percent annual return.
2. With the second investment, you are not guaranteed any return. All you know is how this investment has performed in the past. According to data from recent years, the investment sometimes had a positive annual return as high as 33 percent. During some years, the investment had a negative return (which means you would have lost some of the money you invested) as low as –22 percent.

Complete a copy of the following tables to see how much money you would have gained or lost with each investment each year.

Investment 1

Money Invested	ROI	Gain (Loss)	Total Amount After One Year
$1,000	4.00%		

Investment 2

The return on this investment will vary and is unpredictable.

The following table lists the investment's annual return from the years 1997 to 2006. For example, in 1997, the investment had a 33.4 percent return. This means that if you had invested $1,000 at the beginning of that year, you would have gained an additional $334 by the end of the year for a total of $1,334. In 2000, however, the investment had a –9.1 percent return. That means that if you had invested $1,000 at the beginning of that year, you would have lost $91, ending the year with a total of $909.

Year	Money Invested	ROI	Gain (Loss)	Total Amount After One Year
1997	$1,000	33.4%	$334	$1,334
1998	$1,000	28.6%		
1999	$1,000	21.0%		
2000	$1,000	–9.1%	($91)	$909
2001	$1,000	–11.9%		
2002	$1,000	–22.1%		
2003	$1,000	28.7%		
2004	$1,000	10.9%		
2005	$1,000	4.8%		
2006	$1,000	15.6%		

Consider the following questions:

- Which investment would you choose if you had $1,000 and the opportunity to invest it right now? Why?
- What aspects of your personality, values, and goals have an effect on which investment you would choose?

- Can you think of particular situations in which you or someone else might choose the safe investment over the riskier investment? What about the riskier investment over the safe investment? Why?

HOMEWORK 5.1

Read **Investing 101** and answer the **Questions for Reflection.**

Investing 101

Before You Invest . . .

One of the most important investing tips that financial experts will give you is to make sure you are ready to invest. Most recommend making sure you have a solid savings and debt management plan before you consider risky investments. For example, adults should have an emergency fund of at least three to six months of living expenses in a federally insured savings account. In addition, most experts recommend that short-term goals, such as saving for a car or a trip, should also be in safe investments, such as a savings account. But riskier investments can play a crucial role in helping people meet their long-term financial goals, provided that investors have an understanding of how these investments work and what kinds of risk are involved.

Investment Opportunities: Stocks, Bonds, and More

Stocks

Owning a stock means you own a small part, or **share**, of a company. A company will sell shares of itself—**stock**—in an effort to raise money to either operate or expand its business. You might have heard about a company "going public." That's when a private company makes an **initial public offering (IPO)**, in which the number of and price of shares of the company gets decided. Once a company is public, anyone can buy and trade shares of that company on the stock market.

The term **stock market** refers to the whole system that allows people to buy and sell stocks. A **stock exchange** is the actual place (either physical space or virtual space) where professionals meet to buy and sell stocks for individuals and companies. The largest exchange in the United States is the New York Stock Exchange (NYSE). Other exchanges you might have heard of include the American Stock Exchange (AMEX) and NASDAQ (which stands for the National Association of Securities Dealers Automated Quotations).

TO GO PUBLIC OR NOT TO GO PUBLIC?

A private company will often go public when it is growing and needs more capital to support its growth. It's usually a company that has been successful enough that people will want to buy shares and thus take a chance on earning money from the profits of the company.

But not all successful companies choose to go public. Clif Bar & Company, for example, a company that manufactures energy bars, was founded by Gary Erickson in 1990, and by 2000 it was worth $50 million. However, rather than go public, continue to expand, and compete with other larger companies, Erickson chose to keep the company private. By retaining sole ownership and decision-making powers, he says he is able to choose the direction that the company goes in and retain its philosophy, which includes reducing environmental impact and serving the health of the community. Erickson says that "in the end, we as sole owners of our company have more freedom to do it however we want to do it. That's the kind of freedom we wanted, and that's why we took the huge gamble to keep the company private." Erickson says that keeping the company private allows him to "have the privilege of continuing to create a company that expresses our deepest values."

Making Money with Stocks

The prices of stock shares will vary, often based on how well the company is doing, how well people perceive the company will do in the future, and general economic and political conditions. (You'll learn more about factors that affect the rise and fall of stock prices later.) Generally, the way people make money on stocks is to sell a stock at a higher price than they bought it for. Since you don't know whether the stock price will go up or down, you can also lose money by selling your stock at a lower price than you paid for it. And if the company goes bankrupt, you could potentially lose all the money you invested in the stock.

The other way you can make money from owning stocks is through **dividends**, which are a small portion of the company's profits that some stocks pay you regularly. These dividends are usually pretty small quantities of money, such as 1 percent per share. (That means if each share is valued at $10, you would earn $0.10 for each share that you own.)

Bonds

When you invest in a **bond**, you are essentially agreeing to lend your money to a borrower—such as a company or the government—for a specific period of time. In return, the borrower pays you interest. There are many different types of bonds, but most fall into two categories: government bonds and corporate bonds.

Government bonds are issued by federal, state, and local governments. A **savings bond**, for example, is a type of bond issued by the federal government. You can buy a savings bond at a bank; your money is then lent to the federal government for at least a year. Some bonds have a specific maturity date. For example, you might pay $25 for a $50 bond. Each year, the government pays you a certain amount of interest until the bond matures, or reaches face value ($50 in this case). Government bonds are considered to be safe investments, since they are backed by the "full faith and credit" of the U.S. government, which means that the U.S. government guarantees to repay the debt under any conditions.

Corporate bonds work the same way as government bonds, except that the borrower is a corporation instead of the government. If the corporation that you buy a bond from goes bankrupt, you could lose your money. Corporate bonds tend to offer higher interest rates than government bonds, so while they are riskier than government bonds, they offer the potential for a higher reward. The maturity time for both types of bonds can range from 1 to 30 years. Often the interest rates are higher with longer-term bonds.

Overall, investing in bonds is less risky than investing in stocks, but it is also less likely that you will earn high returns.

Another common type of investment is a mutual fund. **Mutual funds** are collections of different stocks and bonds that are chosen for you and managed by an investment expert. You'll learn more about mutual funds later in this activity.

Real Estate

Sometimes people buy property, such as a house, with the goal of selling it for more money in a few years. Some people have made a lot of money investing in real estate. However, a very large amount of capital, or money, is required for the initial investment. And the investment itself is not very liquid, because selling a house is a complicated and often lengthy process. There is also no guarantee that a home or other property you buy will increase in value after you buy it, so there is a chance you could lose money.

Collectibles

Collectibles are items that tend to appreciate in value because they are relatively rare. There are no strict rules defining what is and isn't a collectible; some people collect rare coins, baseball trading cards, stamps, or even Barbie dolls. Similar to stocks and to real estate, you don't make actual money until you sell the collectible. Since the market for collectibles is relatively small, they are considered a fairly high-risk investment.

Risky Business

Types of Risk

As you learned in Activity 3, all types of investments, even those that are generally considered safe, carry a certain amount of risk. For example, when you put money into a savings account, you run the risk that your money will grow so slowly that it won't keep pace with inflation. If you put money under your mattress, you run the risk that the money will be stolen or lost. The following are just a few of the many types of risk that may affect the value of an investment:

- **Principal risk:** The risk that your investment will go down in value
- **Credit risk:** The risk that a borrower will not repay a loan
- **Liquidity risk:** The risk that you might not be able to sell your investment in order to convert it into cash
- **Inflation risk:** The risk that the money invested won't increase in value enough to keep up with changes in the inflation rate. (For example, if inflation increases by 3 percent and an investment pays a 2 percent return in a given year, then the money at the end of the year will be able to buy less than it would have at the beginning of the year.)

Risk in the Short Term and the Long Term

When considering how risky different investments are, an important thing to consider is time. Experts recommend that you choose risky investments only for long-term goals and stick to safer investments to achieve short-term goals. Many recommend, for example, that you should only invest in high-risk investments if you don't need the money within the next five years. Why do you think that is?

Consider the example of the stock market. In any given year, you can't predict how well your stocks will do—maybe you'll get a 30 percent return on your investments, or a 30 percent loss, or something in between. All kinds of events can cause stock prices to change. The measure of the change in price over a certain period

of time (both how much and how fast the price changes) is called a measure of the stock's **volatility**. The fact that stocks are subject to frequent and unpredictable changes in value is what makes investing in them particularly risky—at any given time, you have the potential for a large return, but you also face the risk of losing a great deal of money. However, the ups and downs of the market have historically tended to cancel each other out, and over time (meaning: years and decades) the value of the market has tended to increase.

One way to look at these historical trends in the U.S. stock market is to look at a stock market index such as the **Standard & Poor's 500 Index (S&P 500)**. This index tracks the changes in value of a group of stocks of 500 large U.S.-based companies that are traded on the two largest U.S. stock markets, the New York Stock Exchange and NASDAQ. Although the S&P 500 won't necessarily tell you whether the particular stock you've invested in has increased or decreased in value, it is representative of the U.S. market as a whole, so it gives you an idea of how stocks in general are doing. **Table 5.1** shows the annual return of the S&P 500 from 1930 to 2006.

Table 5.1: S&P 500 by Decades

1930s		1940s		1950s		1960s	
1930	–24.9%	1940	–9.8%	1950	31.7%	1960	0.5%
1931	–43.3%	1941	–11.6%	1951	24.0%	1961	26.9%
1932	–8.2%	1942	20.3%	1952	18.4%	1962	–8.7 %
1933	54.0%	1943	25.9%	1953	–1.0%	1963	22.8%
1934	–1.4%	1944	19.8%	1954	52.6%	1964	16.5%
1935	47.4%	1945	36.4%	1955	31.6%	1965	12.5%
1936	33.9%	1946	–8.1%	1956	6.6%	1966	–10.1%
1937	–35.0%	1947	5.7%	1957	–10.8%	1967	24.0%
1938	31.1%	1948	5.5%	1958	43.4%	1968	11.1%
1939	–0.4%	1949	18.8%	1959	12.0%	1969	–8.5%
1970s		**1980s**		**1990s**		**2000s**	
1970	4.0%	1980	32.4%	1990	–3.2%	2000	–9.1%
1971	14.3%	1981	–4.9%	1991	30.6%	2001	–11.9%
1972	19.0%	1982	21.4%	1992	7.7%	2002	–22.1%
1973	–14.7%	1983	22.5%	1993	10.0%	2003	28.7%
1974	–26.5%	1984	6.3%	1994	1.3%	2004	10.9%
1975	37.2%	1985	32.2%	1995	37.4%	2005	4.8%
1976	23.8%	1986	18.5%	1996	23.1%	2006	15.6%
1977	–7.2%	1987	5.2%	1997	33.4%		
1978	6.6%	1988	16.8%	1998	28.6%		
1979	18.4%	1989	31.5%	1999	21.0%		

Overall, if you take all the data from 1930 to 2006 and calculate the average, or mean, you will find that the average one-year return was approximately 12.0 percent. As a point of comparison, in that same period of time, long-term U.S. government bonds have had an average return of about 5.3 percent. And the rate of inflation during that time averaged 3.1 percent.

FROM 1930 TO 2006 . . .

- The annual return of the S&P 500 averaged approximately 12.0 percent.
- The annual return of long-term government bonds averaged 5.3 percent.
- Inflation averaged 3.1 percent a year.

So what does it mean that stocks in the S&P have averaged a 12.0 percent return between 1930 and 2006? It doesn't tell you anything about what the returns will be this year if you invest, or next year, or the year after that. But it does tell you that over a long period of time, the U.S. stock market has—and will likely again (though not certainly)—even out in value over time, with an overall net gain. But no one—not even economic and financial experts—can tell for sure! You may want to use the resources on the **Ford PAS Web site** to find the most up-to-date information about the S&P's annual returns in recent years.

Questions for Reflection

1. Why do you think experts recommend choosing riskier investments for achieving long-term goals and safer investments for short-term goals?
2. Do you think you will ever invest in the stock market? Why or why not?

ANALYZING RISK AND REWARD

Consider the types of risk and level of risk associated with each of the different types of investment opportunities that you have read about. Use the reading **Investing 101** to answer the following questions about the specific type of investment you are assigned to analyze:

1. Describe how this investment works. How might someone make money with this investment? For example, do you earn interest? Where does the money you might gain come from?
2. What are the reasons why a person might choose this type of investment? What are the potential rewards?
3. Which type or types of risk are you taking if you choose this investment?
4. Would this investment be better for long-term, short-term, or medium-term goals? Why?

HOMEWORK 5.2

Look at **How Risk-Tolerant Are You?** Take the risk-tolerance quiz using the **Risk-Tolerance Quiz Form**, read the section on risk capacity, and answer the **Questions for Reflection**.

How Risk-Tolerant Are You?

Risk-Tolerance Quiz

Take this quiz and then score your answers to see what kind of risk-taker you are. There are no right or wrong answers to the quiz! But your answers will help you understand your attitudes toward risk.

1. In general, how would your friends describe you as a risk-taker?
   a. A real gambler
   b. A real risk-avoider
   c. Willing to take risks after completing adequate research
   d. Cautious

2. Imagine that you have graduated from college and have a job in your field that you like. Which would you prefer?
   - A small pay raise and high job security (a guarantee that your job will be yours for a long time) or
   - A very high pay raise but less job security (less of a guarantee that you will be able to keep your job for a long time)
   a. Definitely greater job security
   b. Definitely higher pay raise
   c. Probably greater job security
   d. Probably higher pay raise

3. You've been searching online auctions for a vintage video game that you really want. You finally find a seller, but the game is a higher price than you had been hoping for. What do you do?
   a. Buy it right away. You can't guarantee that you'll find it at a lower price, and you don't want to risk not getting it.
   b. Keep looking. It's worth trying to find it at the price you are hoping for.
   c. Give yourself one hour to search for it at a lower price, and if you can't find it, then buy it at the higher price.

4. When eating in a restaurant, how likely is it that you would eat a meal that you had never heard of and never seen before?
   a. Very likely
   b. Somewhat likely
   c. Probably not
   d. No way

5. You are on a TV game show and can choose one of the following. Which would you take?
    a. $1,000 in cash
    b. A 50% chance at winning $5,000
    c. A 25% chance at winning $10,000
    d. A 5% chance at winning $100,000

6. When you hear the word "risk," what word comes to mind?
    a. Thrill
    b. Uncertainty
    c. Opportunity
    d. Loss

7. You and two friends are each holding one ticket for a lottery. One of those tickets has won $100,000, but you don't know which. You:
    a. Sell your ticket to one of your friends for $5,000
    b. Agree to split the money three ways
    c. Go for all or nothing. You want the whole $100,000, so you'll stick with the ticket you have.

8. Your trusted friend and neighbor, an experienced geologist, is putting together a group of investors to fund an exploratory gold-mining venture. The venture could pay back 50 to 100 times the investment if successful. If the mine is a bust, the entire investment is worthless. Your friend estimates the chance of success is only 20 percent. If you had the money, how much would you invest?
    a. Nothing
    b. One-tenth of your savings
    c. Half of your savings
    d. All of your savings

9. Suppose you can invest $10,000 in one of five investments with preset payoffs, but you won't know your outcome until five years from now. The two payoffs are equally likely. For example, with the first pair listed below, you would invest $10,000 now, and in five years you would have an equal chance of getting either $50,000 or $5,000. Which pair do you prefer?
    a. Payoff of $50,000 or $5,000
    b. Payoff of $30,000 or $10,000
    c. Payoff of $25,000 or $12,000
    d. Payoff of $16,000 or $15,000

10. To you, the idea of investing in the stock market sounds:
    a. Like an opportunity to make a lot of money
    b. Exciting
    c. Dangerous
    d. Like something to stay away from

11. Given that only a tiny percentage of businesses survive beyond the first year, how much does the idea of starting your own business appeal to you?
    a. It appeals to you, but you'd have to think very seriously before actually doing it.
    b. No way! A stable job is much more appealing.
    c. It's not that appealing, but you won't rule it out.
    d. Absolutely! You definitely want to and plan to run your own business some day.

Scoring

Add up your points and then match your final score with the descriptions below.

1. a (6 points), b (0 points), c (4 points), d (2 points)
2. a (1 point), b (6 points), c (3 points), d (4 points)
3. a (0 points), b (4 points), c (2 points)
4. a (6 points), b (4 points), c (2 points), d (0 points)
5. a (0 points), b (2 points), c (4 points), d (6 points)
6. a (6 points), b (2 points), c (5 points), d (0 points)
7. a (0 points), b (1 points), c (6 points)
8. a (0 points), b (3 points), c (5 points), d (8 points)
9. a (5 points), b (4 points), c (2 points), d (1 point)
10. a (5 points), b (6 points), c (1 point), d (1 point)
11. a (4 points), b (0 points), c (2 points), d (6 points)

40–65 Points: You are a HIGH ROLLER. You enjoy the rush of taking a chance and you think that the risk is almost always worth the reward. As a young investor, you will benefit from taking risks. But be careful! If you take too many risks with your investments, you could lose more than you could ever earn back. Before you start investing at all, make sure you have a rainy-day fund in a savings account. Always keep some of your money in safe investments so you have a back-up plan if your big gamble doesn't pay off.

17–39 Points: You are a BORN BALANCER. You're not a high-risk gambler, but you're willing to take calculated risks. Your balanced approach should help you when you invest. If you do your research, you should be able to balance some risk-taking with safer investments. But be careful not to get too comfortable with your pattern of always taking the middle road. Make sure you keep doing your research. Otherwise, you might miss out on a big investment opportunity or make a mistake that results in a costly loss.

0–16 Points: You are a NATURAL PRESERVER. You like assurances and you're not very comfortable with risk. As an investor, you have one clear advantage—you are not likely to lose your money. But you face a downside. If you are too careful, your money will grow more slowly than the inflation rate, and you can actually lose wealth. Especially when you are young, it makes sense to take a piece of your savings and use it for more aggressive investments. If they go down a little now, you have decades to recover before retirement. Putting a small part of your money in higher-risk investments is a good way to learn how to manage risk comfortably as you seek to increase your returns over time.

Risk Capacity

In addition to your personality and attitudes toward risk, other factors should be taken into account when you consider how much risk you are able to take. These factors include your income, amount of savings, age, and the nature of your financial goals.

In general, if you are financially stable and have a lot of savings, very little debt, and a steady job with a good income, you can afford to take more risks with your investing than someone who is living paycheck to paycheck.

If you are young and are investing for a goal that is far in the future, such as your retirement, then you can probably afford to make more risky investments. If your money is invested in the stock market over a long period of time, you probably won't even notice if there's a bad year or two in the middle of that time, as long as you don't sell all your stocks at the moment the prices have all dropped. But if you need to use your money for a down payment on a house in a year, then you should put your savings in safer investments so you can be absolutely sure that you will have the money when you need it. In general, the longer you can wait for your money, the higher your risk tolerance.

Questions for Reflection

1. What was your risk-tolerance score? Were you surprised at your score? Why or why not?
2. Do you think your risk tolerance is higher or lower than that of most of your friends? Where do you think your attitudes about risk came from?

MATCH INVESTORS WITH INVESTMENT OPPORTUNITIES

Read **Investor Profiles**, which describes three fictional investors' financial situations and their current investing plan.

For each investor profile, discuss the following questions:

- Which aspects of each investor's profile tell you how much risk this investor can afford to take?
- Given each investor's goals, do you think his or her current investment plan is the best choice? Why or why not? If not, what recommendations would you make?

HOMEWORK 5.3

Read **Choosing Stocks to Invest In** and answer the **Questions for Reflection**.

Choosing Stocks to Invest In

For investors who understand risk and are financially stable enough to tolerate risk, investing in the stock market can play a significant role in helping them meet their long-term financial goals. Earlier you learned that one way you can get an idea of how the market is doing overall is by looking at the S&P 500 index. But that doesn't necessarily mean that whatever stock you invested in will perform exactly the same as the S&P. Sometimes one stock might go way up in price, while another will go way down. If you want to make money in the stock market, you should choose the stock that will go way up. But how can you predict which stock will perform well? The short answer is that you can't. The long answer is that if you learn about the different types of stocks, and the factors that affect stock prices, you will have a better idea of how risky different stocks are, and you can make a more informed decision about which stocks to buy.

Categories of Stocks

Income Stocks Versus Growth Stocks

Remember that there are two ways to make money from your stock investment. One is from dividends, which is when the company pays its stockholders a portion of its profits. The other is from growth, or when you are able to sell the stock for a higher price than you paid. When a company makes a profit, it can choose to distribute its profits to its shareholders, or it can reinvest those profits into the company to help it grow. A company that distributes its profits, therefore, tends to pay regular dividends to its shareholders, and the shares such companies sell are called **income stocks**. **Growth stocks**, on the other hand, are shares of companies that are focused on growing, and therefore reinvest profits back into the company instead of distributing them to shareholders. With growth stocks, you won't receive dividends, but these stocks have more potential to grow, or increase in price. Income stocks are a little less risky, therefore, but also have less potential for a high reward.

Blue-Chip Stocks Versus Less-Established Companies

Blue-chip stocks are stocks of large, well-established companies that have a history of making a consistent profit. These are companies that are well known and will likely—though not definitely—continue to make a steady profit. These companies are not likely to grow much; therefore, it is not likely that the stock price will increase dramatically. Blue-chip stocks are conservative, relatively safe investments, as far as stocks go, and are likely to produce moderate returns.

On the other side of the spectrum, small, young companies have the potential to grow and become very profitable. They also have the potential to fail, as many small, young companies do every year. Because the future of these companies is uncertain, their stocks are often inexpensive—but risky. The most inexpensive and risky of these stocks are called **penny stocks**, which got this name because it originally referred to stocks that could be bought for less than $1 per share. It is now a general term used to describe very inexpensive

stocks of companies that are not yet established. Many investors are attracted to these stocks because of their very low price and the potential for dramatic growth; however, it is just as likely that these stocks will lose all value, making them very risky investments.

Cyclical Stocks Versus Defensive Stocks

The overall economy affects different kinds of companies differently. **Defensive stocks** are stocks of companies that are usually not affected a great deal by economic downturns. These companies often provide products that people consistently buy, regardless of economic conditions. Utilities such as gas and electricity, and food, are examples of categories of products that people need and will consistently buy whether or not the economy is doing well.

Cyclical stocks are stocks of companies that do well when the economy is stable or growing but don't do as well during economic downturns. For example, travel-related companies such as airlines and resorts tend to do well when the economy is thriving and many consumers can afford to take vacations. During an economic downturn, or recession, many consumers will cut back on such non-essential luxury products or services.

FACTORS THAT AFFECT ALL STOCKS

Some events or conditions will cause all or most stocks to rise or fall in value. For example, interest rates and the stock market tend to have an inverse relationship. When interest rates are low, people tend to invest more in the stock market. As the demand for stocks increases, stock prices go up. When interest rates are high, the stock market tends to go down.

When interest rates are higher, borrowing money becomes more expensive for individuals and companies. Companies may be less likely to innovate or expand because it's more expensive, so companies' earnings may level out or decrease. The stock market becomes a slightly less attractive place to invest money, since the growth potential is smaller.

When interest rates are low, borrowing money becomes cheaper, businesses are more likely to innovate or expand, and growth increases. In addition, people who would normally put money in savings accounts look for more profitable places to invest, and their investments tend to increase the value of the stock market.

What Causes a Stock Price to Go Up or Down?

Unless investors buy a very safe income stock and are not concerned with growth, investors generally try to buy a stock that they *think* will appreciate, or increase in value, after they purchase it. It is impossible to predict exactly which stocks will increase in price, how much a stock price will increase or decrease, and for how long a stock will continue to grow in value before it levels off or declines. (That's why purchasing stocks is so risky!) But there are some general principles that will help explain why stock prices fall or rise.

In general, stocks do well when more people want to invest in them. Stock prices go up when the demand for the stock increases—that is, when there are more people who want to buy the stock than want to sell it. What are some of the reasons that make more people want to buy a particular stock?

a. The company's financial situation: When a company is earning profits and growing, it will be more attractive to investors.

b. Positive media coverage: For example, if a company's new product or service gets good reviews and media coverage, the company will seem more attractive to investors. If, on the other hand, the company gets press coverage about something negative, such as a product recall or employee layoffs, that news may discourage investors, thus pushing the price down.

c. The market: If a company is in an industry that is doing well in general, the value of the company's stock is likely to rise. If the company is in an industry that is declining, then the stock will likely decline too.

What Goes Up Must Come Down

Keep in mind that a stock whose value increases quickly probably won't continue to grow at the same fast rate forever. Stocks often go up in value when people believe the company is going to become a lot more profitable in the near future. For example, when Apple launched the iPhone in 2007, consumers were so excited about the new product that many people bought stock before the product launch in anticipation of the company's future success. As a result, Apple's stock price went way up. Often, as a new product or company becomes old news, a company's stock price will level out after a sharp rise in value. Or, if the product or company is not as successful as people thought it would be, investors might start selling the stock, causing prices to go down as demand goes down.

The Bottom Line: Which Stock Do I Choose?

Another thing to remember when you buy a stock is that you really are becoming an owner—although of a very small portion—of the company. If you are buying stocks of individual companies, you might want to invest in companies that create products or services you support or believe in. You're going to profit when this company profits, so it wouldn't make sense to support a company whose practices or products you disagree with. Many experts suggest that you "go with what you know." If you know about lot about video games, for example, you might know which companies are particularly innovative and have potential for future success. Keep in mind, however, that none of these principles can help you predict *exactly* what will happen to your stock. So before investing, it's important to weigh the risk and consider how severe the impact of losing your investment will be on your life.

Questions for Reflection

1. Why do you think some stocks tend to plateau or decline after a period of sharp growth?
2. Using the "go with what you know" principle, identify which industries or products you are most familiar with. What kinds of companies might you invest in if you used the "go with what you know" principle?

ANALYZING STOCK CHOICES

Read **Company Profiles**, which is a description of three fictional companies. Use your knowledge of risk, types of stocks, and the factors that affect stock prices to answer the following questions for each company:

1. Does this company fit into one or more of the categories you read about in **Choosing Stocks to Invest In**? If so, which one? (For example, does it sound like it might be a blue-chip stock? Is it a less well-established company, or even a penny stock? Is it a cyclical stock, a defensive stock, an income stock, or a growth stock?)
2. What characteristics of this company might make you likely to invest in its stock?
3. What characteristics of the company might make you not want to invest in its stock?

Which of these companies, if any, would you consider investing in? Why?

Company Profiles

Company 1: Ejji

Ejji is a new company that manufactures eco-friendly fashion shoes. Their distribution is small, but the trend seems to be catching on, especially with teenagers. Everyone seems to love them—they're inexpensive and very comfortable. In addition, a celebrity from the town where they're manufactured wore them in a movie that's about to be released, and then raved about the shoes and the company in a nationally aired television interview. The company went public only one month ago, so their stock has no performance history. But the shares are very inexpensive, only $1 a share.

Company 2: Stojji

Stojji is a finance company that was founded 150 years ago. Its stock has a history of solid returns and has outperformed the S&P 500 in the last 20 years. However, last year the company's CEO was accused of accounting fraud and has since resigned. A new CEO was hired and will begin work within the next month. The new CEO is a woman who has recently moved from England, where she was the president of a reputable and successful finance company. She was the first woman to head a top 100 firm on the London Stock Exchange.

Company 3: Laavush

Laavush is luxury airline that has hubs in New York City, Chicago, and the Caribbean islands. The company has seen a steady increase in its profits in the four years that it's been in existence. The airline has received rave reviews for comfort and customer service. However, sales have been down in the last few months, so the company has laid off some of its employees.

CHOOSING A STOCK TO TRACK

Now you're going to look at some real companies and how their stocks have performed over the years. As a Stock team, choose one of the companies on the **Stock List** and use the resources on the **Ford PAS Web site** to find out some basic information about the company.

Work with your team to complete **My Stock: The Basics**.

HOMEWORK 5.4

Read **Reading a Stock Table** and answer the **Questions for Reflection**.

Reading a Stock Table

If you invest in a stock, you can track how that stock is doing by looking up the information online or in the business section of a daily newspaper. Usually the stock information will be summarized in the form of a table, which might include the information shown in **Table 5.2**.

Table 5.2: Sample Stock Information

1	2	3	4	5	6	7	8
52 Wk Hi	**52 Wk Low**	**Stock**	**Symbol**	**DIV**	**Vol**	**Close**	**Net Change**
21.93	15.20	Gap, Inc.	GPS	0.32	1,154,200	21.18	+0.30

Note that all of the above information will be in most stock tables you find, although the format of the table and the order of items may vary. In a newspaper, this information will be updated daily; on the Web, the information might be updated every few minutes, as stock prices change continuously throughout the day.

So what does this all mean?

Column 1, 52 Wk Hi and Column 2, 52 Wk Low: These numbers tell you the range of the stock price over the last year, or 52 weeks. The first column tells you the highest price the stock was traded for in the previous 52 weeks, and the second column tells you the lowest. These numbers refer to the dollar price. In this example, the highest price the stock sold for was $21.93 per share, while the lowest was $15.20 per share.

Column 3, Stock: The third column lists the name of the company issuing the stock. Before you decide to purchase stock in a company, you should make sure that the company is publicly traded. You might also be surprised to find that many companies that you are familiar with are in fact owned by a different company, and you will need to identify the parent company in order to buy its stock.

Column 4, Symbol: All stocks have a stock symbol, which is usually one to four letters long. If you are tracking stocks online, you can search for the stock using this symbol. Also, on some news or finance television programs, you might see a ticker tape, or a listing of all the latest stock prices, scroll across the screen.

Column 5, DIV: This is shorthand for dividend. As you learned earlier, some companies pay each shareholder a dividend, or a portion of the company's profits, at the end of each year. The number listed tells you how many dollars per share the company paid as a dividend over the course of the year. In this example, you would have earned 32 cents for each share of stock that you owned.

Column 6, Trading Volume: This is the total number of shares of this stock that was traded on this day. Sometimes this number is listed in hundreds, which means that you need to multiply the number by 100 to

get the actual number of shares traded. (Make sure to look for a key for the table to find out whether the trading volume lists the actual number or whether you need to multiply by 100.)

Column 7, Close: This is the last price the stock was traded for at the end of the most recent day on which the markets were open. For example, if you check stock prices online after the stock market has closed for the day (4:30 p.m. for the New York Stock Exchange, for instance), the price in the Close column will be the final price for that day. If you check online *before* the stock market has closed for the day, the price in the Close column will be the final price for the previous day.

Column 8, Net Change: This is the change in stock price from the end of the previous day's trading period to the end of the current day's trading period. If the number is positive, it reflects an increase in the stock price; if it's negative, it means the price went down. In this case, it says that the closing price was $21.18, and the net change was +0.30. You can infer from this information that the closing price on the previous day's trading period was $20.88 (21.18 – 0.30 = 20.88).

Questions for Reflection

1. Do you think all of the information on this stock table is useful to an investor? Which column's information do you think is most important? Why? Which information do you think is least important to an investor? Why?
2. What information, if any, do you think is missing from this table? If you were investing in a stock, what other information would you want to know about it?
3. What do you think the benefits are of checking information on a stock daily as opposed to monthly or a few times a year? What do you think the benefits are of checking stock information less often?

ANALYZING YOUR STOCK: SHORT TERM

Find out how good an investment your stock would have been by researching and tracking its price changes. You'll start with a short period of time—one week. Use the resources on the **Ford PAS Web site** to complete **My Stock Data**. Find out the closing price for a share of your stock for each of the last seven days. Did the stock change at all in the last week? If you had bought stock in this company at the beginning of the week and sold it yesterday, would you have gained money on the sale or lost money?

ANALYZING YOUR STOCK: LONG TERM

Tracking your stock over the last week gives you some idea of how stock prices fluctuate day to day. But most people invest in the stock market for the long term, not for just a week. Find out how your stock performed over the last five years and how the price fluctuated each month. Create a Stock Tracking Spreadsheet with two columns: Date and Closing Stock Price. Your spreadsheet should look like the example shown in **Table 5.3**. Complete the spreadsheet using the closing stock price for each of the last 60 months.

Table 5.3: Stock Tracking Sample

Date	Closing Stock Price
1/15/08	$21.68
2/15/08	$19.52
3/15/08	$20.82
4/15/08	$20.45
5/15/08	$19.68
6/15/08	$20.25

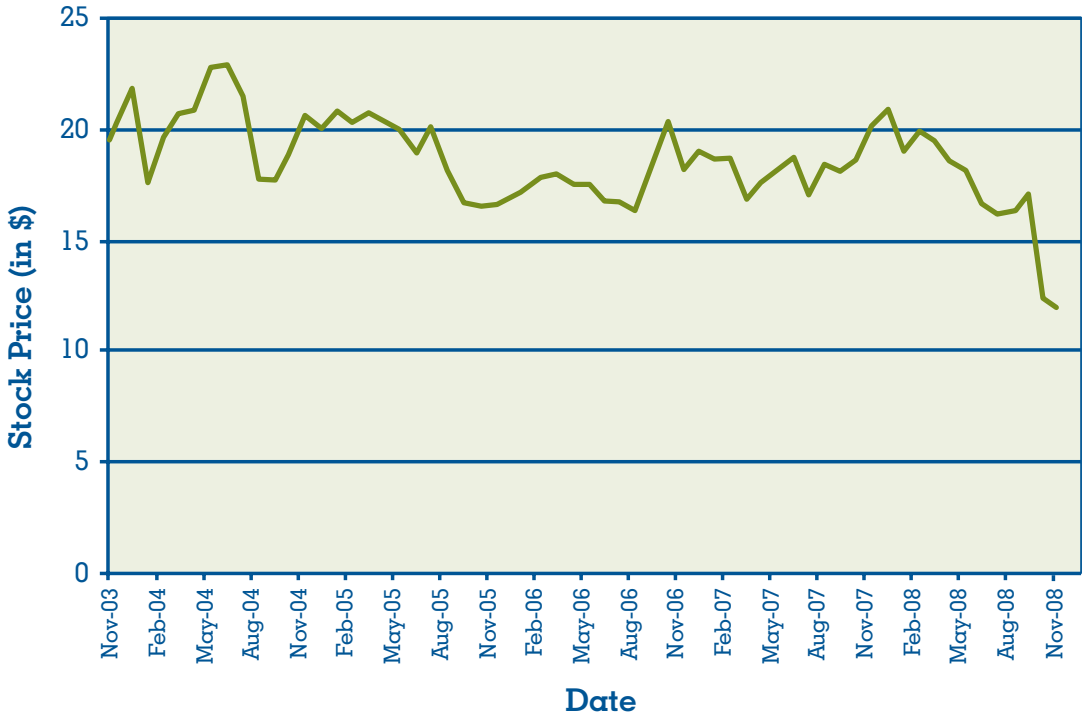
ANALYZE STOCK PRICE CHANGES

Use your Stock Tracking Spreadsheet to analyze the changes in your stock's price over the last five years. Conduct the following analyses:

1. Create a graph that shows the changes in your stock's price over the last five years, using monthly stock prices as your data points.

   For example, **Figure 5.1** shows how the share price of the Gap Inc.'s stock fluctuated each month from November 2003 to November 2008:

Figure 5.1: Gap Inc. (GPS) Stock Price Changes, November 2003–November 2008



2. Calculate the annual return of your stock for each of the last five years.

   To do this, take the closing stock price from January 1 five years ago and compare it to the closing price exactly one year later. For example, let's say you bought the stock at $10 a share on January 1, 2007. Then look at the price of one share of the stock on January 1, 2008. What percentage did the price rise or fall? That's the annual return on your stock in 2007.

   Then do the same calculation for each of the next four years.

3. Determine the average annual return of your stock over the last five years. To calculate the average annual return, simply add the annual returns for each year and divide by five.

CALCULATING ANNUAL RETURN

If the stock price was $10 on January 1, 2007, and $11 on January 1, 2008, by what percentage did the stock price change? Use the following formula to figure it out:

$$\frac{\text{2008 price} - \text{2007 price}}{\text{2007 price}} \times 100 = \text{the percent change in price from 2007 to 2008}$$

This would be: $\frac{\$11 - \$10}{\$10} \times 100 = 10\%$

So if you had bought the stock in 2007 for $10 and sold it in 2008 for $11, your annual return would have been 10 percent.

COMPARE THE PERFORMANCE OF STOCKS

Would your stock have been a good investment? Would you have made money if you had invested in this stock? How does it compare to how other stocks did during the same period of time?

Work with another Stock team to compare your stock's performance to their stock's performance over the last five years. Be prepared to share your results with the class.

Work together to use the graphs, tables, and calculations you created to answer the following questions:

1. Compare the annual return of each stock over the last five years. Which stock had a higher average annual return?
2. If each team had invested $1,000 in its stock five years ago and sold the stock today, how much money would each team have gained or lost?
3. Which stock would have been a better investment, assuming you had made the initial investment five years ago?
4. Imagine that five years ago you had put $1,000 into a savings account that earned 4 percent annual compound interest. How much money would you have in that account today? How does that compare with the two stock investments? Which investment would have been the most profitable?

DID YOU KNOW?

Financial analysts, personal financial advisors, stockbrokers—these are just a few of the job opportunities in the investment sector. Go to the **Ford PAS Web site** to learn about these opportunities and see profiles of different investment jobs.

HOMEWORK 5.5

Read **Reducing Risk: Dollar-Cost Averaging** and answer the **Questions for Reflection**.

Reducing Risk: Dollar-Cost Averaging

As you have learned, stock prices frequently fluctuate, leaving investors to guess when it is a good time to buy or sell stocks. One way to reduce the guesswork and the risk that comes with fluctuating prices is **dollar-cost averaging**, which is investing a fixed amount of money in the same stock (or other investment) at regular intervals. With dollar-cost averaging, you end up purchasing more shares of a stock when prices are low and fewer shares of stock when prices are high. It lessens the losses you incur when stock prices fall and protects you from dramatic declines in the value of your stock.

For example, imagine that you invested $100.00 in Acme stock every single month for one year. That means that each month your $100.00 bought a certain number of shares of Acme stock; the number of shares would vary depending on what the stock price is at the time.

Let's say that on January 1 each share was worth $15.25. If you invested $100.00, how many shares would you be able to buy?

$$\frac{\$100.00}{\$15.25} = 6.56 \text{ shares (rounded to the nearest hundredth)}$$

On February 1, the price of a share goes up to $18.18. If you invest another $100.00 on February 1, how many shares would you be able to buy?

$$\frac{\$100.00}{\$18.18} = 5.50 \text{ shares (rounded to the nearest hundredth)}$$

As of February 1, you would have invested a total of $200.00 ($100.00 on January 1 and $100.00 on February 1), and you'd have a total of 12.06 shares. Since the price on February 1 is $18.18 and you own 12.06 shares of the stock, your investment would currently be worth $219.25 (a 9.63 percent return on the $200.00 you invested).

$$\frac{\$219.25 - \$200.00}{\$200.00} = 9.63\% \text{ (rounded to the nearest hundredth of a percent)}$$

If you continued to invest $100.00 each month and calculate your returns (taking into account the changing stock price), you'd get the results shown in **Table 5.4**. Note that to find the number of shares bought (Column D), divide the amount of the investment by the price per share (Column C).

Table 5.4: Acme Investment: Dollar-Cost Averaging

A	B	C	D	E	F	G	H
Date of Investment	Amount of Investment	Price per Share	Number of Shares Bought*	Total Number of Shares Owned	Current Value of Your Investment	How Much Money You've Invested	Return on Your Investment
January 1	$100.00	$15.25	6.56	6.56	$100.00	$100.00	
February 1	$100.00	$18.18	5.50	12.06	$219.25	$200.00	**9.63%**
March 1	$100.00	$14.15	7.07	19.13	$270.69	$300.00	**–9 .77%**
April 1	$100.00	$15.85	6.31	25.44	$403.22	$400.00	**0.81%**
May 1	$100.00	$15.50	6.45	31.89	$494.30	$500.00	**–1.14%**
June 1	$100.00	$13.20	7.58	39.47	$521.00	$600.00	**–13.17%**
July 1	$100.00	$16.15	6.19	45.66	$737.41	$700.00	**5.34%**
August 1	$100.00	$17.20	5.81	51.47	$885.28	$800.00	**10.66%**
September 1	$100.00	$11.01	9.08	60.55	$666.66	$900.00	**–25.93%**
October 1	$100.00	$10.08	9.92	70.47	$710.34	$1,000.00	**–28.97%**
November 1	$100.00	$12.00	8.33	78.80	$945.60	$1,100.00	**–14.04%**
December 1	$100.00	$15.01	6.66	85.46	$1,282.75	$1,200.00	**6.90%**

*Divide $100 by current price per share.

As you can see, the price of the stock went up and down throughout the year. This means that each month, your $100.00 bought a different number of shares of stock. Because the value of your stock changed, your return on your total investment would have gone up and down throughout the year. At the end of the year, you would have invested a total of $1,200.00, and you'd own 85.46 shares of stock. At the current value of $15.01 a share, your investment would be worth $1,282.75 (a 6.90 percent return on your $1,200.00 investment). To see how dollar-cost averaging affected your returns, consider what your results would have been if, instead of investing $100.00 a month in Acme, you had invested the $1,200.00 in one lump sum on January 1 (as shown in **Table 5.5**).

Table 5.5: Acme Investment: Investing One Lump Sum of $1,200

A	B	C	D	E	F	G	H
Date of Investment	Amount of Investment	Price per Share	Number of Shares Bought	Total Number of Shares Owned	Current Value of Your Investment	How Much Money You've Invested	Return on Your Investment
January 1	$1,200.00	$15.25	78.69	78.69	$1,200.00	$1,200.00	**0.00%**
February 1	$0	$18.18	0	78.69	$1,430.58	$1,200.00	**19.22%**
March 1	$0	$14.15	0	78.69	$1,113.46	$1,200.00	**–7.21%**
April 1	$0	$15.85	0	78.69	$1,247.24	$1,200.00	**3.94%**
May 1	$0	$15.50	0	78.69	$1,219.70	$1,200.00	**1.64%**
June 1	$0	$13.20	0	78.69	$1,038.71	$1,200.00	**–13.44%**
July 1	$0	$16.15	0	78.69	$1,270.84	$1,200.00	**5.90%**
August 1	$0	$17.20	0	78.69	$1,353.47	$1,200.00	**12.79%**
September 1	$0	$11.01	0	78.69	$866.38	$1,200.00	**–27.80%**
October 1	$0	$10.08	0	78.69	$793.20	$1,200.00	**–33.90%**
November 1	$0	$12.00	0	78.69	$944.28	$1,200.00	**–21.31%**
December 1	$0	$15.01	0	78.69	$1,181.14	$1,200.00	**–1.57%**

Your returns still went up and down each month when you invested the $1,200.00 in one lump sum. But you'll notice that the difference in returns from month to month was more dramatic. And at the end of 12 months, you had fewer shares of stock than you would have with dollar-cost averaging. That's because you bought all the stock at a higher price—with dollar-cost averaging, there were months when the price was low, so you bought more shares.

And if you bought the stock in one lump sum and then sold the stock on December 1 at $15.01 a share, you would have lost money, since the price per share was lower on December 1 than the price at which you

bought all your stock on January 1. But you didn't lose money when you used dollar-cost averaging. Simply by investing at regular intervals, you turned a 1.57 percent loss into a 6.90 percent gain.

Dollar-cost averaging does not always work perfectly, however. If your investment is steadily declining, you will still lose money. And if your investment steadily increases in price, you won't make as much money with dollar-cost averaging as you would have if you had bought all the stock initially when the price was low.

But if you have an investment that fluctuates as most stocks do, dollar-cost averaging reduces some of the risk that price fluctuations have on your investment. In some cases, dollar-cost averaging can turn a small gain into a larger one or a loss into a profit. It can also be a good incentive for people to establish a regular savings and investing program—some people set up automatic deductions so that money is automatically transferred from a bank account to a mutual fund or other investment each month.

DOLLAR-COST AVERAGING DISCOUNTS

When you used dollar-cost averaging with the Acme investment, you paid an average price per share of $14.04. (You invested $1,200 in total and own 85.46 shares; 1,200 divided by 85.46 is equal to 14.04.)

But if you look at the monthly share prices in Column C of **Table 5.4** and compute their average, you'll find that the average price per share was actually $14.47. So by investing at regular intervals, you actually got a "discount" of 43 cents per share on your stock!

Questions for Reflection

1. Why do you think dollar-cost averaging reduces investment risk?
2. What do you think are possible drawbacks of dollar-cost averaging?

DOES DOLLAR-COST-AVERAGING WORK?

Does dollar-cost averaging really work to minimize risk? How often does it actually help investors? Use the stock that you tracked as an example, and find out how dollar-cost averaging would have affected your returns if you had invested in that stock during the last year. You'll compare two different investment strategies: investing $100 a month for 12 months and investing a lump sum of $1,200 at the beginning of that same time frame. How would your returns have differed throughout the year? How would your returns have differed at the end of the year?

Complete the following steps:

1. Choose a starting date that is at least one year ago. Find the price per share of your stock on that exact date. Then find the price per share for each of the next 11 months. For example, if you choose March 15 as your starting date, find the stock price for April 15, May 15, and so on.
2. Create a Dollar-Cost Averaging Spreadsheet. On this spreadsheet, create two separate tables, each with the following headings:

A	B	C	D	E	F	G	H
Date of Investment	**Amount of Investment**	**Price per Share**	**Number of Shares Bought**	**Total Number of Shares Owned**	**Current Value of Your Investment**	**How Much Money You've Invested**	**Return on Your Investment**
March 15	$100.00						
April 15	$100.00						

3. Complete the first table with the data for dollar-cost averaging, assuming you had invested $100.00 each month for a total of 12 months.
4. Complete the second table as if you had invested one lump sum of $1,200. (Even though you only make one "investment" in the second scenario, include the monthly stock price and calculate the value of your stock each month.)
5. After you complete each table, use Excel to create two graphs that show the monthly returns for each investment strategy.

6. Then analyze your results and answer the following questions:

   a. At the end of one year, how many shares of the stock would you have owned with each investment strategy?

   b. If you were to sell the stock at the end of one year, which investment strategy would have yielded a higher return?

   c. Compare the two graphs. What effect did dollar-cost averaging have on the fluctuations of your monthly returns?

   d. Which investment strategy would have been better for this particular stock during this time frame? Why? (For example, did your stock price steadily increase each month? Did that affect which investment strategy would have yielded better results?)

HOMEWORK 5.6

Read **Managing and Reducing Risk: Diversification.**

Managing and Reducing Risk: Diversification

It was January 2000. Michael's friends had been encouraging him to invest in the stock market because they had all been making big gains investing in technology companies, which had been booming throughout the late 1990s. Michael was a pet lover, and he was intrigued when he heard about the company Pets.com, which sold pet supplies and accessories directly to consumers over the Internet. Pets.com went public in February 2000, and Michael took the $10,000 he had in a savings account and invested it all in Pets.com. Nine months later, the company went bankrupt, and Michael lost all of his money.

Michael's investment was very risky because he invested all his money into one company. Essentially, he "put all his eggs in one basket." It's similar to applying to only one college or sending your resume to only one company. In those cases, you have only one chance at success; you're relying entirely on one possible outcome.

Diversification is a way to reduce risk by investing in different types of stocks or other investments. So let's say that instead of putting all his money into Pets.com, Michael used his $10,000 to create an investment **portfolio**—or collection of investments—in 25 different companies. Even if one of those companies had gone bankrupt, it wouldn't have affected his overall investment portfolio much because his money would have been spread around and not entirely dependent on that one company.

One simple way many investors diversify is by investing in a mutual fund. Mutual funds are collections of different stocks and bonds that are chosen for you and managed by an investment expert. Instead of deciding on your own how to diversify your investments, you pay a fee to the mutual fund manager who chooses different investments for you.

There are many different types of mutual funds. Some mutual funds invest only in stocks, while others invest only in bonds; some invest in a mix of stocks and bonds. Some stock funds invest in specific types of stocks. For example, sector funds target stocks in a specific sector of the economy, such as health or technology. Index funds invest money in stocks that make up a broad market index, such as the S&P 500; these funds try to replicate the performance of the market overall.

Another type of fund is a **socially responsible fund**. These are funds that invest only in companies that meet criteria of particular beliefs or values. For example, a green fund is a mutual fund that invests in companies that meet certain environmental standards, while other funds that call themselves socially responsible might avoid investing in particular industries, such as tobacco or liquor.

Choosing mutual funds reduces some of the risk of investing. With reduced risk, though, the potential reward is also reduced. On average, mutual funds tend to perform slightly below the market as a whole. Mutual funds also involve high administrative costs, including transaction fees and annual fees, which can also cut into investors' returns.

Questions for Reflection

1. What do you think are the greatest advantages of investing in mutual funds?
2. What might be some of the drawbacks of investing in mutual funds?

FINANCIAL LIVING: CREATE AN INVESTMENT PORTFOLIO

Now that you know some of the rewards and challenges of investing, consider how investing will fit with your Financial Living character's short- and long-term goals.

Work with your Financial Living team to read Part 5: Investing in your **Financial Living Character Packet**. Discuss the following questions with your team:

- How did your character score on the risk assessment?
- What factors, if any, made your character's risk tolerance score higher? What factors, if any, made his or her risk tolerance score lower?
- What kinds of investments do you think will match your character's risk level? Why? What kinds of investments should your character stay away from? Why?

Work with your team to complete your character's **Financial Living Investment Portfolio**.

Then revisit your character's Budget, Savings Plan, and Debt Payment Spreadsheets. Using your character's current financial situation, project what your character's finances will look like five years from now. How much do you project your character will have in savings and investments? How much debt will your character have? Create a table or graph that reflects this projection.

HOMEWORK 5.7

Begin working on your Investment Report, which should describe how your Financial Living character's investment portfolio matches his or her level of risk tolerance. Use the **Investment Report Guidelines** and the **Investment Report Assessment** to guide your work.

Investment Report Guidelines

Write a one-page analysis of your character's investment portfolio. Include the following information in your Investment Report:

1. Risk tolerance: Describe how your character scored on the risk assessment. What factors, if any, made your character's risk-tolerance and risk-capacity scores higher? What factors, if any, made his or her risk-tolerance and risk-capacity scores lower?
2. Describe the decisions you made for your character's investment portfolio, and include a table or graph that shows exactly what portion of the character's total investment amount will go toward each type of investment. What types of investments did you focus on? What types of investments, if any, did you avoid? Why? How does your character's investment portfolio match his or her risk tolerance?
3. Describe why the character's investment portfolio is appropriate for his or her level of risk tolerance and capacity as well as the effect this investment plan will have on the achievement of the character's short-term and long-term goals.
4. Describe your five-year projections for your character, and include a table or graph that shows these projections. What do you project will be the value of character's savings and investments in five years? Describe how you arrived at these projections.

FINANCIAL LIVING INVESTMENT PRESENTATIONS

Work with your Financial Living team to prepare a five-minute presentation in which you act out a role-play of your character discussing his or her investment plan with a professional financial planner.

Include the following information in your role-play:

- Explain the character's risk tolerance and risk capacity. Present the key factors that had the greatest effect on the character's risk level (such as age, income level, long- and short-term goals, and so on).
- Describe the investment portfolio. Present a table or graph that shows how the money will be distributed to different types of investments.
- Explain how the character's investment portfolio matches his or her risk level.

HOMEWORK 5.8

Continue to work on your Investment Report.

Write an entry in your Finance Journal about something you learned from another team's investment presentation. Describe how this information or insight might affect personal decisions you make about investing in the future.

HOMEWORK 5.9

Complete your Investment Report.

Read **Insuring Your Future** and answer the **Questions for Reflection**.

EXTENSIONS

5.1

Conduct research to choose actual mutual funds, stocks, bonds, and other investments to include in your character's portfolio. Choose one of these investments to track. Create a spreadsheet that documents the changing value of this investment.

5.2

Find the S&P 500 annual averages since 2006. Use the data from **Table 5.1** on page 146 to determine how the recent returns affect the overall average return of the S&P from 1930 to the present. What about the average return from the last 10 years?

Imagine that you are a financial advisor and that one of your clients sends you an e-mail asking whether she should change her investment strategies based on stock market returns in recent years. Write an e-mail response to your client listing your recommendations and the reasons for your recommendations.

Insuring Your Future

Hannah is 25 years old and works at a movie distribution company. She has a solid savings and investment plan, makes regular payments on her student loans, and is proud that she has a good handle on her finances. She saved enough to move into a new apartment and even buy some brand new furniture.

Two weeks after she moved in, an electrical fire broke out in her building. Fortunately, no one was hurt. Even the possessions she valued most—her photographs, letters, books, and clothes—were still in boxes in her bedroom, unharmed. But there was extensive scorching and smoke damage to the ceilings, walls, and cabinets in her kitchen and living room. Her new furniture was destroyed. In all, there was more than $5,000 worth of damage! As she tearfully told her parents about the fire, she said, "But the fire wasn't my fault. So the damage will be paid for, right?"

Her dad answered, "Sure, if you have renters insurance. If not, who do you expect will pay for it?" Hannah was devastated. Months ago, her dad had suggested that she buy renters insurance for the new apartment, but she hadn't thought it was worth it.

Insurance is a way of protecting yourself from certain risks associated with financial loss—for example, being in a car accident, getting sick, or having possessions stolen. People face such risks every day. To deal with them you essentially have four choices.

1. **Avoid the risk.** If you don't want to get into a car accident, you can choose not to drive, and perhaps walk, bike, or take public transportation. Avoiding risks completely, though, is not possible. For example, even if you avoid the risk of a car accident by biking, you still face the risk of an accident on your bike.
2. **Reduce the risk.** With driving, for example, you can take lessons to become a better driver, drive at a reasonable speed, and wear a seatbelt. These actions won't guarantee that you won't get into an accident, but they can lessen the likelihood of an accident and injuries.
3. **Accept the risk.** Sometimes the risk of loss is not very likely, or the loss itself is not that big a deal. For example, let's say you buy a $300 camera. You might have the option of paying an extra $50 for a warranty that will give you a free repair or a replacement if your camera breaks within two years. But you might believe that there's not much chance of the camera breaking in the first two years, and you're willing to pay for a new camera if it does break. In that case, you might decide it's not worth paying the extra money for the warranty.

4. **Share the risk.** Imagine that 200 students in your school ride their bicycles to school and lock them up outside. The student council decides to offer students insurance against the theft of their bicycles. Each bicycle is worth, on average, $200. Each year an average of five bicycles are stolen—or approximately $1,000 worth of bikes ($200 × 5). If each student paid five dollars for bicycle insurance, the student council would have $1,000—enough to cover the costs if five students' bicycles were stolen.

The method of sharing the risk is essentially how insurance companies work. They charge clients a fee, called a **premium**. This premium covers the cost of the losses, the costs of running the insurance company, and the company's profit.

People buy insurance for many types of risk. The most common types of insurance are health, automobile, homeowners, renters, and life insurance.

Health Insurance: Medical visits, even just check-ups, can be expensive. The cost of a hospital stay or surgery can be astronomical. Health insurance covers a lot of these costs. Health insurers charge a monthly premium as well as a small fee, called a **co-payment** (referred to as a co-pay) , for each doctor visit. If your parents have health insurance, it probably covers you until somewhere between age 19 and 25, depending on your state and insurance company. After that, you need to find your own coverage. Many employers offer health insurance at a discount, which is usually much less expensive than buying it on your own. But other jobs don't offer health insurance benefits. In particular, part-time workers, consultants, and freelancers might not get health insurance benefits at their jobs. Because health insurance is such a financial challenge to so many people, politicians often disagree about and debate ways to provide affordable health care.

Auto Insurance: Auto insurance protects you from losses if you're in an accident or your vehicle is stolen, vandalized, or otherwise damaged. There are different types of auto insurance. **Liability** insurance covers the cost of damage to other people or vehicles when you are the person responsible for the damage, and is mandatory in most states. Other types of auto insurance—for example, insurance that covers repairs to your vehicle after vandalism—are optional. The more coverage you choose, the more expensive your premium is.

In addition to paying a premium, you choose in advance the amount of your **deductible**, which is a portion of damage costs that you agree to pay yourself. For example, if your deductible for collision is $200, you must pay the first $200 worth of damage if you are in an accident; beyond that, the insurance company pays. Plans with lower deductibles are more expensive than those with higher deductibles.

Homeowners Insurance: This covers losses from damage to your home caused by fires, natural disasters, and thefts. You can choose different levels of coverage, and you usually have to pay a deductible for damage that is covered.

Renters Insurance: This reimburses renters for the loss of personal possessions stolen or damaged by theft, fire, or water. If you have renters insurance and your possessions are stolen, it doesn't matter whether they were stolen from your home or somewhere else—you're still protected. Studies in 2007 showed that most renters do not purchase

insurance (while most homeowners do purchase insurance) because they don't know it's available, don't think they can afford it, or don't think they need it. Yet break-ins and burglaries are actually more common in rented households than in homes that are owned.

Life Insurance: A life insurance policy provides financial support after your death to people such as children or elderly parents who depend on your income to live. Many employers offer life insurance at discounted rates. Young single people don't necessarily need life insurance, but premiums may be cheaper for young people. If you purchase life insurance while you're young, you may be able to lock in relatively low rates for many years to come. Therefore, some experts recommend taking advantage of the rates and purchasing the insurance early in life.

Disability Insurance: Disability insurance pays you an income if illness or injury keep you from working for a long time. Many employers offer disability insurance. In addition, the federal government provides some disability benefits to people who are uninsured.

Questions for Reflection

1. Why do you think more homeowners than renters purchase insurance?
2. Which of the types of insurance listed do you think you need? Which, if any, do you think you don't need at this point in your life? Why?
3. In general, how would you decide whether it's worth purchasing insurance?

ACTIVITY 6:
Planning Ahead

INTRODUCTION

You now know how to develop solid spending, savings, and investment plans. But do you know how to prepare for unexpected events? If you got into a minor car accident, what effect would that have on your financial plan? What if your apartment was robbed? In this activity you'll learn about ways to plan and prepare for unexpected obstacles that can affect your finances. You'll consider the role that insurance plays in minimizing risk, and you'll weigh the costs and benefits of taking precautions. You'll complete your financial plans for your Financial Living character as well as give a short presentation on your character's financial goals, long-term planning for those goals, and strategies for meeting unexpected obstacles.

Learning Goals

- Analyze insurance as a way of reducing risk, and identify the costs and benefits of different types of insurance.
- Identify strategies for planning ahead to meet unexpected financial obstacles.
- Analyze the effects of financial decisions to make recommendations for long-term financial planning.

FOR YOUR GLOSSARY

Co-payment
Deductible
Insurance
Liability
Premium

BUYING INSURANCE SIMULATION INTRODUCTION

Now that you've developed solid spending, savings, and investment plans, consider the effect that an unexpected event, such as an accident or getting robbed, would have on your financial plan. Buying insurance can protect you financially—but is it worth spending money on insurance for all the various risks you face? Or are some not worth spending money on?

In some states, for example, if your home is damaged by a flood, your homeowners insurance won't cover the damage, and you'll need to purchase a separate flood insurance policy. How do you decide in advance whether it's worth buying flood insurance or better to accept the risk and take a chance? After Hurricane Katrina in 2005, many homeowners who suffered devastating losses had to pay for all damages out of their own pockets because they didn't have flood insurance. They even had to keep making mortgage payments on homes that were no longer standing. For them, flood insurance would have been well worth the premiums. On the other hand, if you live in a place that rarely rains, it's probably not worth spending the money to buy flood insurance!

You're going to engage in a simulation that will help you consider the costs and benefits of buying and not buying insurance.

Read **Buying Insurance** and decide which types of insurance you want to buy. You have a budget of $3,000 per year. You must allocate your money the same way each year, so once you purchase insurance for the first year, you'll have the same insurance every year thereafter.

You'll participate in five rounds of the simulation, representing five years of your life. For each round, you'll get a card with a number from 1 to 12. Each number corresponds to an event that results in damages or a loss that needs to be paid for, either out of your own pocket or by insurance if you have it. For example, the jewelry section in **Buying Insurance** says:

Jewelry

Premium: $45 per year

Loss: $3,400

Risk: 1 in 12

Deductible: None

Card: 7

The last line tells you what card number or numbers results in a loss. If you draw a card with a 7, that means your jewelry was damaged or stolen. As a result, you lose either $3,400 if you did not buy jewelry insurance or $45 if you did buy insurance.

*"Buying Insurance Simulation" was adapted from *Financial Fitness for Life-Bringing Home the Gold. Lesson 22, Managing risk: The good news about insurance*. National Council on Economic Education. Adapted with permission.

BUYING INSURANCE SIMULATION

After each round of the simulation, calculate your costs and losses based on the insurance plans you chose to purchase; record these calculations on **Adding Up Losses**.

At the end of the simulation, discuss the following questions:

- Which students had the greatest losses and highest costs? Which students had the fewest losses?
- If you could go back and start over, what decisions would have helped you minimize losses in this game?
- Consider how each of you scored on your risk tolerance quiz during Activity 5. Did your risk tolerance affect the choices you made about which insurance to buy? How?
- Given your own risk tolerance, what kinds of insurance choices do you think you'll make in real life? Why?
- Which types of insurance do you think are essential, even for risk-takers? Which types of insurance do you think are not worth buying?

HOMEWORK 6.1

Read Part 6: Managing Risk of your **Financial Living Character Packet**. Be prepared to discuss the following questions with your Financial Living team:

1. Assess your character's current insurance plans. Is your character underinsured in any areas and taking unnecessary risks?
2. Is your character overinsured in any area and spending too much money to play it safe?
3. Should your character upgrade any of his or her insurance? Why or why not?

Read the **Final Financial Report Guidelines**.

Final Financial Report Guidelines

Your Final Financial Report should address the following questions:

1. Revisit the financial goal you set for your Financial Living character. Looking back, do you think this goal was SMART? Is it an appropriate and attainable goal? Why or why not?

2. What strategies did you employ to help your character meet this goal? Describe how your character's savings, spending, and investment plans are focused on helping your character meet his or her goal.

3. What are some of the challenges you faced in helping your character meet his or her SMART goal? What were some of the sacrifices he or she had to make? What were some of the obstacles faced?

4. Consider how you responded to the unexpected events presented in the Chance and Consequence Cards. Looking back, were there any actions you wish you had taken that would have prepared your character better for the unexpected obstacles? If so, what would you have done differently? If not, what decisions did you make that helped your character prepare for unexpected obstacles?

5. Reflect on the work you did during the Financial Living project. What strategies for reaching your financial goals did you learn that you will apply to your own life?

FINANCIAL LIVING: CHOOSING INSURANCE

Meet with your Financial Living team and discuss your Financial Living character's current insurance plans. Decide whether you think your character should upgrade any of his or her insurance.

As you make decisions, revisit your character's goals and your character's Budget, Savings Plan, and Debt Payment Spreadsheets. Consider how purchasing insurance fits with your character's goals.

If you decide that your character needs to purchase new insurance or upgrade his or her current insurance plan, identify how your character will budget for this new purchase. Create a new column or worksheet in your character's Budget Spreadsheet, in which you incorporate the new insurance costs.

FINANCIAL LIVING: INSURANCE CHANCE AND CONSEQUENCE

Look at your **Insurance Chance and Consequence Card** and discuss the following questions with your Financial Living team:

- What are the immediate negative or positive effects of this event on your Financial Living character?
- What effect will this event have on your character's daily life? What effect will it have on achieving his or her SMART goal?
- How, if at all, was your character prepared for this event?
- What, if anything, should your character have done in order to better prepare for this and other unexpected obstacles?

Create either a drawing or a scene that dramatizes the effect of this event on your character. Make sure your drawing or scene shows how, if at all, your character was prepared for this event, what your character might have done to be better prepared, and what effect the event will have on your character's financial goals.

HOMEWORK 6.2

Work on your Final Financial Report for your Financial Living character. Use the **Final Financial Report Guidelines** and the **Final Financial Report Assessment** to help guide your work.

FINANCIAL LIVING: PREPARE FINAL PRESENTATION

Work with your team to prepare your Financial Living final presentation. Your five-minute presentation should include the following information:

1. A review of your Financial Living character's SMART goal and why you picked that goal.
2. One action you took for your character that was important in helping your character achieve his or her financial goal. (For example, did you find a savings account with a really high interest rate? Did you decide to buy a used vehicle instead of a new vehicle?)
3. At least one example of a change you made to your character's budget or savings plan during the module, and an explanation of why you made this change.
4. One decision that was particularly difficult to make. (For example, was it difficult to decide how to balance paying off debt with building up savings? Was it difficult to choose a vehicle to purchase?) Explain how your team finally reached a decision, and what the negative and positive consequences of this decision were.
5. A projection of your character's life and financial situation five years from now.
6. The most important lesson in financial management that you learned from working on this project.

HOMEWORK 6.3

Continue working on your Final Financial Report.

FINANCIAL LIVING PRESENTATIONS

Present your Financial Living character's financial plan and the lessons your team learned from this project.

Listen to the other teams' presentations. After each team presents, complete the **Financial Living Final Presentation Peer Assessment**.

HOMEWORK 6.4

Write an entry in your Finance Journal about something you learned from another Financial Living team's presentations today. Describe how this information or insight might inform future financial decisions you make for yourself.

NOW WHAT WOULD YOU DO WITH THE MONEY?

Revisit the question you were asked at the very beginning of this module: If you really and truly were given $10,000 today, what would you do with it?

Write a response in your Finance Journal. Share your response with a partner and discuss how, if at all, your ideas are different from what you said you would do with the money at the beginning of the module.

LESSONS LEARNED

Consider what you've learned about setting and achieving goals and developing sound spending, savings, debt management, and investment plans to meet those goals. Imagine that you have one chance to talk to other kids your age about something you got from this module. What do you think is the most important thing you learned? Is it something small, like making sure to read the fine print on a credit card offer? Or something bigger, like how planning ahead can help you get the things you want in life?

Share your lesson with your class and listen to all the other financial and life lessons that your classmates are taking away from this module.

HOMEWORK 6.5

Prepare for the **Module Test**.

EXTENSION

6.1

Write an entry in your Finance Journal from the perspective of your character five years from today. Show how the character's financial decision-making has affected his or her daily life.

Math Resource Appendix

This appendix provides definitions, examples, and explanations of different math terms and concepts that may be helpful to you during this module. Your teacher may introduce some of these concepts to you to show you the connection between the business and finance concepts introduced in this module and the mathematics concepts you learn in your math classes.

Associative property of addition (and multiplication): If three or more numbers are added (or three or more numbers are multiplied), the operations can be performed in any order without changing the result. For example:

$(143 + 189) + 11 = 143 + (189 + 11)$

$(285 \times 5) \times 2 = 285 \times (5 \times 2)$

Commutative property of addition (and multiplication): If two or more numbers are added, they can be placed in any order without changing the result; their sum remains the same. Similarly, numbers can be multiplied in any order without changing the result; their product remains the same. For example:

$5 + 8 = 8 + 5$

$a + 15 + b = b + a + 15$

$20 \times 35 = 35 \times 20$

$5a \times b \times a = 5a^2b$

Constant function: A type of function in which the dependent variable has the same value for all possible values of the independent variable. For example:

- The amount a person pays in rent does not usually differ from month to month (unless the landlord raises the rent), so rent is a constant function of time.

- Medicare tax is deducted at the same rate for different incomes, so the Medicare tax rate is a constant function of income.

The graph of a constant function is a straight, horizontal line. Because the graph of a constant function is a straight line, it follows that a constant function is a special case of a linear function. See **linear function**.

Direct variation: A type of function in which the dependent variable is directly proportional to the independent variable—that is, the two values are connected in such a way that if one variable increases or decreases, so will the other. Direct variation is described by an equation of the form $y = kx$, where:

- y is the dependent variable
- x is the independent variable
- k is a non-zero number called the constant of variation (or the coefficient of proportionality)

The graph of a direct variation is always a straight line that passes through the origin (point [0, 0]), the point at which the vertical and horizontal axes intersect.

The following are examples of direct variation:

- The amount of sales tax varies directly with the cost of the goods that a consumer buys. For example, if the sales tax is 5 percent, the tax that the consumer pays is:

$$\text{Taxes} = 0.05 \times \text{Cost}$$

- The amount you pay for movie tickets varies directly with the number of tickets you purchase. For example, if each movie ticket costs $10, the amount paid is:

$$\text{Amount Paid} = \$10 \times \text{Number of Tickets Purchased}$$

Another way to say that y is a direct variation of x is to say that y is directly proportional to x.

Distributive property (of multiplication or division over addition or subtraction): The sum (or difference) of two numbers can be multiplied by a third number by multiplying each of the two numbers by the third number and then adding (or subtracting) the results.

Likewise, the sum (or difference) of two numbers can be divided by a non-zero number by dividing each of the numbers by that non-zero number and then adding (or subtracting) the results.

The following formulas illustrate this property:

$$(a + b) \times c = a \times c + b \times c$$

$$(a - b) \times c = a \times c - b \times c$$

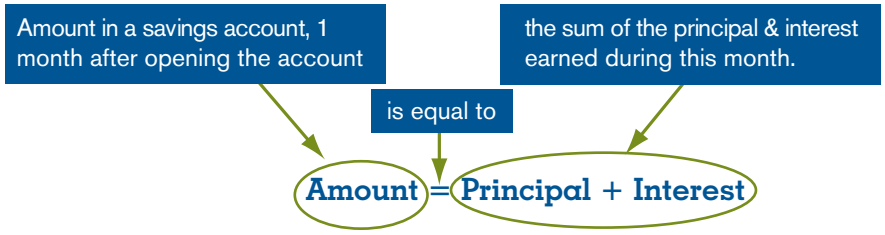
$$\frac{(a + b)}{c} = \frac{a}{c} + \frac{b}{c}$$

$$\frac{(a - b)}{c} = \frac{a}{c} - \frac{b}{c}$$

For example, you can calculate the total taxes for two purchases in either of the following ways:

- Calculate the tax for each purchase, and then add the results.
- Add the cost of the two purchases, and then calculate the tax on the total.

Equation: A mathematical statement that two quantities or values are equal. For example, the following equation states that:



The statement $(-5)^2 = (5)^2$ is also an equation; it says that the squares of –5 and 5 are equal. One clue that you are dealing with an equation is that it always has an equal (=) sign.

Equivalent: Having the same value, although not necessarily identical. For example, one pound is equivalent to 16 ounces, or 5 + 8 is equivalent to 4 + 9.

Equivalent expressions (equivalent formulas): Expressions (or formulas) that can be used to find the same quantity or that express the same relationship. Equivalent arithmetic expressions have the same value; equivalent algebraic expressions have the same value for all possible values of their variables (for example, $(x + y)(x - y) = x^2 - y^2$).

Exponential change: Type of change where the value of the dependent variable changes at a constant percent (or constant ratio), given fixed changes in the independent variable. **Exponential growth** and **exponential decay** are examples of exponential change.

Exponential decay: An example of exponential change, in which a quantity decreases or depreciates by a constant percentage. For example, if you pay two percent of your credit card balance each month, the amount of your credit card balance will decrease by a constant percentage and therefore exhibit exponential decay. See **exponential change**.

Exponential growth: A type of growth in which a quantity increases by a fixed percentage. With exponential growth, the larger the quantity gets, the faster it grows—but the ratio of growth to value remains the same. For example, the value of the savings in a savings account that accrues interest annually grows exponentially. The amount of money saved grows faster as time goes by because interest is calculated each year on the entire amount in the account, including previous interest payments. While the *amount* of interest earned changes (and increases each year), the *percentage* of money added does not. See **Exponential change**. Compare to **Linear growth**.

Exponentiation: An arithmetic operation that involves two numbers or expressions, *a* base *a* and an exponent *b*. It is written as a^b and is read as "*a* raised to the power of *b*" or "*a* raised to the *b*th power." It indicates a multiplication of the base times itself. For example:

$3^2 = 3 \times 3$	$25^3 = 25 \times 25 \times 25$	$1.1^4 = 1.1 \times 1.1 \times 1.1 \times 1.1$
("3 squared")	("25 cubed")	("1.1 raised to the 4th power" or "1.1 raised to the power of 4")

Just as with addition or multiplication, exponentiation has its own properties:

- When exponential expressions with the same base are multiplied, the exponents are added. For example, $3^2 \times 3^4 = 3^{2+4} = 3^6$. You can envision why this works as follows:

$$\overbrace{(3 \times 3)}^{3^2} \times \overbrace{(3 \times 3 \times 3 \times 3)}^{3^4} = \overbrace{(3 \times 3 \times 3 \times 3 \times 3 \times 3)}^{3^6}$$

- When an exponential expression is itself the base of another exponential expression, the two bases are multiplied. For example:

$$(3^2)^4 = (3 \times 3)^4 = (3 \times 3) \times (3 \times 3) \times (3 \times 3) \times (3 \times 3) = 3^{2 \times 4} = 3^8$$

The base, the exponent, or both can be expressions, as in the following examples:

$$3^{2a} \qquad (a + 1)^7 \qquad (3a - 18)^{(2bc)}$$

Exponents can also be negative numbers, fractions, or even zero. Note that the value of any exponential expression with an exponent of 0 equals 1. For example:

$$3^0 = 1 \qquad (5a + 1)^0 = 1$$

Exponents: See **Exponentiation**.

Expression: A meaningful combination of numbers, signs of operations, and possibly parentheses and variables. Expressions that do not include variables are called arithmetic expressions. Expressions that do include variables are called algebraic expressions.

- When you find the value of an arithmetic expression, you are carrying out the operation it describes. For example, $5 + 3$ is an arithmetic expression; its value is 8.
- When you find the value of an algebraic expression, you are finding the value of the arithmetic expression that results from substituting given values for the variables. For example, Principal + Interest is an expression. If you know the value of each variable, you can calculate the corresponding value of the expression. Even if you don't know the values of the variables, you can still simplify the expression.

Factoring: A process used to rewrite a number or an expression as a product of smaller numbers or simpler expressions. These smaller or simpler elements are called factors. For example,

- 8 can be written as 2×4
- $x^2 + 3x + 2$ can be written as $(x + 1)(x + 2)$

Formula: An equation that tells you how to determine the value of a variable if you know some other information, including the values of other variables. For example, consider the following equation:

$$\text{Amount} = \text{Principal} + \text{Interest}$$

This formula allows you to calculate the amount in a savings account after a certain period of time, if you know the amounts of both the principal and the accrued interest for this period of time.

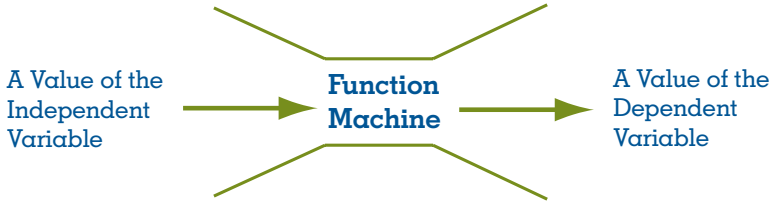
Function: A relationship between two variables in which for any value of one variable (called the independent variable), there is exactly one value of the other variable (called the dependent variable).

Not all relationships between two variables are functions. For example, consider this table, which lists profits for the Sparrow Lounge restaurant for each month of the year.

Month	Profit
January	$6,744
February	$3,573
March	$4,873
April	$5,232
May	$12,789
June	$16,345
July	$15,904
August	$17,022
September	$25,793
October	$14,431
November	$6,744
December	$3,984

Profit is a function of month, because for each month there is only one value of profit. However, month is not a function of profit, because it is possible that two (or more) different months could show exactly the same profit—as you can see in the months of January and November in the table. Thus, there is more than one value of the dependent variable (month) for the same value of the independent variable (profit).

One way to think about functions is to imagine them as machines that process raw materials (independent variables) into finished products (dependent variables). You can feed the function machine any value of the independent variable, and the machine outputs the corresponding value of the dependent variable:



For example, the function machine that tells you the revenues for a concert will output the value of the revenues if you input the number of concert-goers for a certain ticket price.

Independent variable: See **Function**.

Inverse variation: A type of function for which the product of the independent variable and the dependent variable remains the same.

An inverse variation can be described with the formula, $y = \frac{k}{x}$ where x is an independent variable, y is the corresponding dependent variable, and k (which must not be equal to zero) is the constant of variation. (Note that if two variables vary inversely, neither of them can be equal to zero.) With direct variation, the dependent and the independent variables change in opposite directions, so, if x increases, the value of y decreases. For example, if you earn a fixed salary, the amount in each of your paychecks varies inversely with the number of paychecks you receive per year. (The more frequently you are paid, the smaller the amount of money you will receive in each paycheck.)

Linear function: A function that has a constant rate of change and can be represented with a straight line.

For example, consider the total cost to rent an apartment as a function of the number of months the apartment is rented. If the apartment costs $100 per month, then the total cost is $100 times the number of months it is rented. For one month, the total cost is $100, for 6 months it is $600; for 12 months it is $1,200, and so on. You can calculate the total you will pay as $100 × Number of Months. Notice that any change in the number of months the apartment is rented is proportional to the change in the amount paid in rent. In other words, the ratio of the dependent variable to the independent variable remains constant for any value of the independent variable

$\left(\frac{100}{1}=100,\ \frac{600}{6}=100,\text{ and }\frac{1{,}200}{12}=100\right)$.

Linear growth: A function is said to grow linearly if for a given change of the independent variable (x) the corresponding change of the dependent variable (y) is constant. For example, if a child receives the same allowance every week and saves it in a jar, the growth of the savings is linear: No matter how much is in the jar already, the savings will grow by the same amount over the same periods of time. Compare to **Exponential growth**.

Order of operations: The order in which arithmetic operations in an expression should be performed.

In arithmetic, we use the following operations: addition, subtraction, multiplication, division, raising a number or expression to a power (exponents), and finding a root or logarithm. When simplifying an expression, we perform the more complex operations first, working from left to right:

1. Simplify all exponents, logarithms, or roots.
2. Multiply and divide.
3. Add and subtract.

Using this order, you would solve the problem below as follows:

$$2 + 4 \times 5 + 15 / 3 + 8^2 = 2 + 20 + 5 + 64 = 91$$

To specify a different order, we use parentheses. For example:

$$(2 + 4) \times (5 + 15) / 3 + 8^2 = 6 \times 20 / 3 + 64 = 120 / 3 + 64 = 40 + 64 = 104$$

To remember the order **p**arentheses, **e**xponents, **m**ultiplication and **d**ivision, and **a**ddition and **s**ubtraction, you can use the acronym PEMDAS, or a mnemonic sentence, such as **P**lease **E**xcuse **M**y **D**ear **A**unt **S**ally.

Variables: Factors or quantities that have the potential to change. For example, interest earned is a variable that changes with time (and with many other variables). A variable can also refer to a letter used to represent a changing quantity—for example, R might be used to represent the annual interest rate for a savings account, which can change over time.

Glossary

Ability-to-pay principle: The idea that people who have higher incomes can afford to pay more in taxes and thus help the government provide essential services.

Annual percentage rate (APR): The approximate percentage paid on the principal of a loan over the course of a year.

Appreciate: To increase in value over time.

Asset: Goods owned by an individual or a business that are worth money—for example: homes, vehicles, bank accounts, stocks, land, and factory or farming equipment.

Balance transfer: Money owed (that is, a credit card loan) that is transferred to a new credit card. The borrower then makes the monthly payments to the new credit card company.

Bank: A type of business that provides financial services by holding, investing, or lending money.

Benefits-received principle: The idea that people who benefit from particular services should be the ones who pay to finance them. For example, tolls to maintain certain highways are collected from the drivers who use those highways.

Blue Book® value: The suggested retail value of a vehicle as determined by the Kelley Blue Book Company.

Blue-chip stocks: Stocks of public companies that have a long history of earning profits and paying dividends in good and bad economic times. Blue-chip companies tend to be large, stable, and well known.

Bond: A type of loan in which you lend your money to a borrower—such as a government or a corporation—for an agreed-upon time period and rate of interest. U.S. savings bonds are a highly secure type of bond. Bonds issued by corporations often pay higher rates but are riskier, since the company could go bankrupt and never pay back the money.

Budget: A list of planned expenses and income that shows how you intend to spend, save, and invest your money. Budget can also mean a sum of money allocated for a specific purpose—for example, an art student may say, "My budget for art supplies this year is $500."

Capital: Money, property, or other financial assets owned by an individual or a company.

Certificate of deposit (CD): An account that allows you to deposit a specific amount of money for a specific length of time and that earns interest at a fixed rate. You have to leave your money in the CD for the full time period agreed upon; if you withdraw your money early, you pay a penalty.

Compound interest: Interest that is calculated on all of the money in your account—not only on the initial principal, but also on the interest already earned.

Co-payment: Also called a co-pay. A small fee that health insurance companies charge you when you access services. For example, if you have health insurance, you might have to pay a co-pay of $10.00 or $25.00 for each visit to a doctor. The insurance company pays the remaining cost of the visit.

Credit: Money you borrow (for instance, in order to buy something) with an agreement to repay the money later.

Creditor: A person or company that extends credit (that is, makes loans).

Credit union: A nonprofit business, owned by its members, that provides financial services by holding, investing, or lending money.

Cyclical stocks: Shares in companies whose earnings tend to perform very well when the economy is stable or growing, but poorly during economic downturns. Examples are stocks in companies that provide luxury items and travel services.

Daily periodic rate: The percentage of the principal of a loan charged as daily interest. It is calculated by dividing the yearly rate by 365 days.

Debt-to-income ratio: The amount of money a person owes expressed as a proportion of the amount of money that person earns.

Deductible: A portion of costs that you pay before your insurance company takes over payment. For example, if your auto insurance deductible for collision is $200.00, you must pay the first $200.00 worth of damage if you are in an accident; beyond that, the insurance company pays.

Deductions: Amounts subtracted from your gross income, such as federal income tax, health insurance (if covered by your employer), or retirement savings (if your employer has a retirement plan for employees to which you make contributions).

Default: A failure to make required payments on time, or to comply with conditions of a loan or credit agreement.

Defensive stocks: Shares in companies whose earnings are not affected a great deal by economic downturns because people continue to buy these products even when times are hard. Examples are stocks in oil and food companies.

Depreciation: The decline of a product's value over time. For example, a home that is not maintained often depreciates in value.

Disposable income: Income that remains after all taxes are paid. (But note that when you apply for some loans or benefits the exact definition can change—for example, disposable income may be considered income left after taxes plus pension payments.)

Diversification: A strategy for reducing financial risk by investing in different types of stocks or other investments.

Dividends: Yearly payments by a company to its shareholders. A dividend is part of the profits earned by the company.

Dollar-cost averaging: Investing a set amount of money in the same investment at regular intervals over a long period of time. This means that when prices are low your set amount of money will buy more shares and when prices are high it will buy fewer shares. A buyer who does this will tend to take advantage of price drops and avoid being hurt by price spikes, and will not have to try to predict the market to do so.

Down payment: An initial payment you make when you are buying something on credit.

Effective annual interest rate: The exact percentage interest earned in a year. For example, say an account of $1,000 earns a 5 percent nominal annual interest rate. If interest is compounded monthly, at the end of the year the account has earned $51.16; thus the effective annual interest rate is 5.116 percent. If interest is compounded daily, at the end of the year the account has earned $51.27; thus the effective annual interest rate is 5.127 percent.

Federal Deposit Insurance Corporation (FDIC): Established in 1934, this independent federal agency insures deposits of up to $100,000 in checking and savings accounts. This means that when you deposit money into a bank, you are guaranteed to get your money back (up to $100,000) no matter what happens to the bank. Most banks in the United States—but not all—are FDIC-insured.

Federal funds rate: The interest rate, set by the Federal Reserve, that banks can use when they lend money to other banks.

Federal income tax: A percentage of one's income that U.S. citizens, residents, and corporations are required to pay to the national government on all money they earn in one calendar year. The rate one pays depends on one's income level. Many state and some local governments have income taxes as well. Income tax was created in 1913 by the Sixteenth Amendment to the Constitution.

Federal Reserve: The central bank of the United States, informally known as "the Fed." Its job is to set the cost of borrowing money and to control the amount of money in the U.S. economy. The Fed seeks to stabilize the U.S. economy by raising and lowering short-term interest rates and regulating the money supply.

FICO credit score: A number between 300 and 850 that tells lenders how good a credit risk a person is. The scoring method takes into account factors such as payment history and current debt. A high number indicates good credit history, making lenders likely to offer that person more credit. A number above 750 is generally considered excellent. FICO stands for Fair Isaac and Company, the company that developed the scoring method.

Finance charge: Interest that is charged to a credit card account and added to the account's monthly balance.

Financial institution: An organization that sells financial services such as loans. It obtains capital from individuals, businesses, and other organizations and invests it in various financial assets. Banks and credit unions are financial institutions.

Fixed expenses: Expenses that are paid each month and that remain the same, such as rent or mortgage, school tuition, auto insurance, cable service, and so on. Individual fixed expenses can change, but not very often—for example, your tuition might increase, you might move to a cheaper home, or your landlord might raise the rent.

Flat tax: A tax that everyone, regardless of income, pays at the same rate. For example, as of 2008, all employees, whether they earn $20,000 or $2,000,000, pay 1.45 percent of their income to fund Medicare. Also called a proportional tax.

Grace period: A period of time during which no interest is charged. For example, after you purchase something with a credit card, you usually have a 20-day grace period to repay the credit card issuer before interest is charged on that amount.

Gross income: The amount of money you earn at a job before items such as taxes or insurance are deducted from your pay.

Growth stock: Stock in a company that tends to reinvest its profits into the company instead of paying out a portion of profits to its shareholders every year.

Identity theft: The use of someone's personal and financial information in order to steal or defraud. For example, someone who steals your identity can apply for credit cards or loans in your name and commit crimes in your name.

Income stock: Stock in a company that tends to pay dividends (a portion of its profits) every year to its stockholders as opposed to reinvesting most of its profits in the company.

Inflation: A gradual rise in the cost of goods and services over time. For example, imagine that 10 years ago you bought a certain gadget for $5.00. It broke last week, so today you decide to replace it—and you find that it now costs you $6.71. Costs have gone up, and your $5.00 doesn't buy as much as it did.

Initial public offering (IPO): A company's first-time offering of stock or shares to the public. IPOs are often issued by young companies seeking capital to expand.

Installment credit: Credit that is repaid in installments or parts. For example, if you buy a refrigerator with installment credit, you will pay for the refrigerator by making payments every month until you have paid the full price (and usually some interest).

Insurance: A way of pooling money in order to protect yourself from certain risks associated with financial loss—for example, getting in a car accident or having possessions stolen. Common kinds of insurance include health, auto, homeowners, renters, disability, and life insurance.

Interest: A fee that that is paid for the temporary use of money. For example, when you deposit money in a bank, the bank pays you interest for the use of your money. If you borrow from a bank or credit lender, you pay interest as a fee for borrowing the money.

Interest rate: The percentage of principal that is paid as a fee for borrowing money.

Investment: The use of money for the purpose of making more money, to gain income or increase capital, or both. You can invest money in a company (for instance, by buying stock), bonds, a certificate of deposit, a home (expecting to make money when you sell), or even a bank account that pays interest.

Invoice price: The price the vehicle manufacturer charges the automobile dealership.

Lease: An agreement that allows a person to use a product for a certain amount of time. Homes and vehicles are often leased.

Lender: An organization—such as a bank or credit card company—that lends money.

Liability: A type of insurance that covers the cost of damage to other people or vehicles when you are the person responsible for the damage.

Liquidity: How rapidly an asset can be converted into cash. A savings account has high liquidity because you can withdraw your money at any time. A CD is less liquid because you must wait an agreed-upon time to cash out your money (or pay a penalty for early withdrawal). A house is even less liquid, because to sell it for cash you need to spend time preparing the house and finding a buyer.

Manufacturer's Suggested Retail Price (MSRP): The price a manufacturer recommends that dealers charge customers for a particular vehicle.

Medicare: Medical insurance for disabled workers and individuals over retirement age. The Medicare program was signed into law in 1965.

Medicare tax: Money deducted from employees' paychecks that goes to pay for medical benefits for people over 65 years of age. Medicare tax is paid by both employee and employer.

Money market account: An account on which you earn interest but also are allowed some transactions. For example, you might be allowed to write three checks a month on the account. Money market accounts usually pay higher interest than regular savings accounts and often require a minimum balance.

Mutual funds: A collection of different stocks and bonds that are chosen and managed by an investment expert or company. When you invest in a mutual fund, a mutual fund manager chooses the various investments for you.

Negotiation: A discussion between two or more parties in which each party has competing goals and interests in regard to the issue at hand. At the end of a successful negotiation, the parties will have come to an agreement about the issue.

Net income: The amount left in your paycheck after all deductions (such as taxes and retirement contributions) are made; also called your take-home pay.

Nominal annual interest rate: The approximate interest you earn in one year. The exact interest you earn will be slightly higher if the interest is compounded more often than once a year.

Opportunity cost: The most valuable alternative that you give up when you make a choice—in other words, the trade-off or cost of passing up the next best choice.

Penny stocks: Very inexpensive stocks of companies that are not yet established. Because the companies are new, they have the potential to be hugely successful or to fail. Therefore their stock is risky: it might grow dramatically or lose all value.

Portfolio: A collection of investments.

Premium: A fee that insurance companies charge their clients. The premium covers the cost of losses, the cost of running the insurance company, and the company's profit.

Principal: The original amount of an investment. For example, if you deposit $100.00 into a bank account that earns interest, that $100.00 is considered your principal.

Productive credit: Money that is borrowed with the expectation that the use of the loan will allow the borrower to earn more money. For example, a farmer might go into debt to buy land, expecting that he

can use the land to make enough money to pay the loan and make a profit. A student might borrow money for college, expecting that a college degree will increase future earning potential.

Progressive tax: A tax that is paid at a higher rate as income grows. For example, as your salary increases, a higher percentage of your income is deducted for federal income taxes.

Proportional tax: A tax that everyone, regardless of income, pays at the same rate. For example, all employees, whether they earn $20,000 or $2,000,000, pay 1.45 percent of their wages to fund Medicare. Also called a flat tax.

Reserve requirement: An amount of money that has to stay in a bank and not be loaned out, usually between 3 and 10 percent of a bank's total deposits.

Return on investment (ROI): The money you gain from an investment, expressed as a percentage of the original investment.

Revenue: Income that can be used to pay for products or services. For example, taxes are collected to create revenue that governments can use to provide services.

Revolving credit: A system in which an individual can borrow money up to a certain limit and then each month have the choice of either paying the balance in full or making a smaller partial payment. The individual can keep borrowing and repaying the money indefinitely. Credit cards are examples of revolving credit.

Savings bond: A piece of paper that shows that a person has agreed to lend money to the U.S. government. When you buy a U.S. savings bond (usually at a bank), the government can use that money until you cash the bond at the end of its term, which can be anywhere between 1 year and 30 years. Your bond earns interest until you cash it.

Scarcity: A situation in which people's needs are greater than the resources available to provide for those needs. For example, umbrellas may be scarce on rainy days when many people want to buy them, or wheat may be scarce after a drought.

Share: A part ownership of a company that is offered for sale to the public. You can own, buy, and sell shares. If the company does well, the value of your shares increases, and you make money if you sell them. If the company does badly, the value of your shares goes down, and you lose money if you sell them.

Simple interest: Interest that is earned only on the principal invested. For example, if you deposited $100.00 in an account at 5 percent annual simple interest, each year you would receive $5.00 in interest (5 percent of $100.00).

SMART goal: A short- or long-term goal that is specific, measurable, attainable, relevant, and time-specific.

Social Security: A program that provides income to disabled workers and individuals over retirement age. The Social Security Act was passed in 1935.

Social Security tax: Money deducted from employees' paychecks and money paid by employers to the federal government to pay retirement benefits and disability benefits to retired workers, disabled people, widows, and orphaned children. Also called FICA (Federal Insurance Contribution Act) tax.

Socially responsible fund: Funds that invest only in companies that meet the criteria of particular values. For example, a "green" fund may only invest in companies that meet certain environmental standards, while other socially responsible funds might avoid investing in particular industries, such as tobacco or liquor, or in companies that use child or slave labor.

Standard and Poor's 500 Index (S&P 500): A group of stocks of 500 large American companies that are traded on the two largest U.S. stock markets—the New York Stock Exchange and the National Association of Securities Dealers Automated Quotation System (NASDAQ). The S&P is representative of the market as a whole, so it gives you an idea of how stocks in general are doing.

Stock: Shares in the ownership of a company that are offered for sale to the public. You can own, buy, and sell stock. If the company does well, the value of your stock increases, and you make money if you sell it. If the company does badly, the stock value goes down, and you lose money if you sell.

Stock exchange: An organized central marketplace where members buy and sell financial items such as stocks and bonds. Individuals or institutions can buy and sell the stocks, and prices are determined through supply and demand.

Stock market: The organized trading of stocks, bonds, or other securities (such as currencies or mortgages) or the place where such trading occurs.

Tax: Money (usually derived from income or sales) that individuals or companies pay to their city, state, or federal government. The governments use this money to pay for services such as highways, police, courts, national defense, health, education, and so on.

Tax brackets: The income-range categories that determine the rate at which an individual pays income taxes.

Three Cs of credit: A way to help a potential lender determine your ability, or that of your business, to repay a loan. The lender examines the following factors:

- Character—How trustworthy are you? Will you repay your debts as agreed? Do you have a history of paying rent, telephone, utility and other debts in the past? Have you made payments on time?

- Capacity—Do you have the ability to repay? Do you have a steady job? For how long? How much do you earn? How much do you already owe?
- Capital—Do you have savings in a bank or credit union? Do you own property? (Note that the lender does not expect you to use up your capital to repay the debt. However, it provides some assurance that debts will be paid if a period of adversity arises.)

Variable expenses: Expenses that change from period to period (such as month to month—for example, the cost of food, fuel, or entertainment.

Volatility: A measure of price fluctuations—how much and how fast the value of an investment changes.

Warranty: A written statement from a seller that guarantees a product's qualities and performance.

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Notes: